



County of Santa Cruz

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
 (831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123

ALVIN D. JAMES, DIRECTOR

Agenda Date: June 13, 2000

May 11, 2000

Board of Supervisors
 County of Santa Cruz
 701 Ocean Street
 Santa Cruz, CA 95060

Subject: Proposal to rezone Assessor's Parcel Numbers 089-011-41 and 43 from the Special Use ("SU") zone district to the Timber Production ("TP") zone district. Requires a Rezoning.

APPLICATION NUMBER: 99-O 186

APNs: 089-01 1-41 and 43

APPLICANT: Peter Twight

OWNER: Roger and Michele Burch

LOCATION: The property is located 400 feet north of Logan Creek, approximately 1/4 mile from Kings Creek Road.

Members of the Board:

BACKGROUND

The County's General Plan Policy on Timber Resources is to "encourage timberland owners to apply for Timber Production Zoning where appropriate." Your Board adopted a resolution on April 14, 1998 establishing a flat fee of \$750 to process a rezoning to the Timber Production zone district, in order to facilitate appropriate rezoning of timberlands.

On March 29, 1999, the County Planning Department accepted this application for rezoning two parcels totaling about 20 acres currently zoned Special Use (SU) to Timber Production (TP). This rezoning has been applied for under the California State Government Code Section 5 1113.5 "Petition by owner to add to timberland production zone". Under Section 51113.5, an owner with timberlands in a timberland production zone may petition the Board to add to his or her timberland production lands provided that the subject land is devoted to and used for growing and harvesting timber, or for timber production and compatible uses, is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre and is contiguous to the timberland already zoned as timberland production in the same ownership. Section 5 1113.5 states that the criteria for zoning to TP set forth in Section 5 1113 shall not apply to these lands. As a "petition by owner to add to timberland production zone", the criteria specified under County Code Section 13.10.375 (c) zoning to the TP

district do not apply to this rezoning application. This project qualifies for a statutory exemption (Attachment 3) in accordance with the California Environmental Quality Act and the County Environmental Review Guidelines (Article 17, Section 1703). The project meets the two aforementioned criteria for rezoning to Timber Production:

1. The properties are timberlands being devoted to and used for growing and harvesting timber and compatible uses and is capable of producing 15 cubic feet of fiber per acre per year; and
2. The properties are adjacent to Timberland Production property zoned pursuant to section 5 1112 or 5 1113 of the Government Code and are in the ownership of one person, as defined in Section 3 8 106 of the Revenue and Taxation Code (Exhibit G and H, Attachment 6).

In addition, the required findings for rezoning can be made subject to the Conditions of Approval (Attachment 2). The findings are included with this staff report as Attachment 1.

On April 12, 2000, the Planning Commission heard this application at a noticed public hearing. The Planning Commission adopted Resolution 1-00 (Attachment 4) recommending approval of the conditional rezoning of the subject parcel to your Board. Minutes of the Planning Commission meeting can be seen as Attachment 7.

DISCUSSION

Project Setting:

The project site is located in the Skyline planning area with access via a private 50 foot right-of-way off of Kings Creek Road (Exhibit E of Attachment 6). The subject parcels are 10 acres each and, except for existing logging roads and landings, are currently undeveloped. The topography of the properties can be characterized as steeply sloping mountain terrain (40 to 75%) with some moderately sloped areas (25 to 40%). The subject parcels both drain towards Sleeper Gulch, a perennial stream via sheet flow and several Class III tributaries. Sleeper Gulch flows roughly east to northwest across the parcels and is a tributary to Kings Creek located about 3/4 miles downstream. Due to natural impassible barriers, Sleeper Gulch does not support any anadromous fish.

Assessor's Parcel Number 089-01 1-02 is an approximately 210 acre, Timber Production zoned parcel owned by Burch. The subject parcels are contiguous to this TP zoned property along the southern property line of parcel 089-0 11-43. Together these three parcels encompass about 13 3 acres. Exhibit G of Attachment 6 shows the physical relationship of these parcels.

The subject parcels were selectively harvested under Timber Harvest Permit 1-97-254 SCR (Exhibit K of Attachment 6) in 1997-98. According to the timber harvest plan, these properties were extensively harvested in the 1970's, which created the existing logging roads and landings. These properties were clear cut in the mid to early 1900's and no old growth trees remain. The 2 10 acre TP parcel was harvested in 1988-89 under THP 1-88-5 19 SCR. A Registered Professional Forester has prepared a letter for the property owner stating that the subject properties are contiguous to Timber Production zoned lands and that the subject properties qualify as timberlands pursuant to

Section 5 1104 of the Government Code (Exhibit L of Attachment 6). As demonstrated in the 1997 Timber Harvest Plan, and as verified in the field and by a Registered Professional Forester, the subject parcels are capable of producing at least 15 cubic feet of timber per acre annually, thereby meeting the definition of timberland.

APNs 089-O 1 1-4 1 and 43 are zoned SU. Parcel 43 is bordered by TP zoned property (in the same ownership) on the south and by SU properties on the north (parcel 41 which also proposed for rezoning) and west. Both parcels are bordered by a TP zoned property (different owner) on the east. The Zoning Map for the subject parcels and the surrounding properties is included as Exhibit H of Attachment 6.

General Plan & Zoning Consistency

Both subject parcels have a 1994 General Plan land use designation of Mountain Residential and are located entirely within a mapped Timber Resource designated area (Exhibit I of Attachment 6). Parcels 089-O 1 1-41 and 43 are currently zoned Special Use. The Special Use and Timber Production zoning districts both implement the Mountain Residential General Plan designation, as specified in Section 13.10.170 of the County Code.

The subject lands are not visible from a 1994 General Plan designated scenic road and are not located within a mapped scenic resource area. The conditions (Attachment 2) proposed for this approval will

assure that any future development of the subject parcels will be compatible with a long-term timber use for which this rezoning is being proposed. Moreover, the conditions specify the uses for the logging roads, which are allowed under and consistent with the County's ordinances and General Plan policies. Condition II.F. specifies that future timber harvesting comply with current County regulations which include Chapter 13.10.695 "Locational Criteria for Timber Harvesting" which limits timber harvesting adjacent to streams.

Conclusion

In accordance with Section 5 1113.5 of the State Government Code, the applicant has met all of the criteria to have the property rezoned. As these properties are undeveloped, conditions (Attachment 2) are proposed for this approval to ensure that any future development of the subject parcel will be compatible with a long-term timber use for which this rezoning is being proposed. Moreover, the conditions specify the uses for any new logging roads, which are allowed under and consistent with the County's ordinances and General Plan policies.

All required findings can be made to approve this application and the rezoning is consistent with the General Plan policies and land use designations, subject to the attached conditions of approval.

RECOMMENDATION

It is, therefore, RECOMMENDED that your Board, based on the attached Findings (Attachment 1) and Conditions (Attachment 2):

1. Approve the determination that the project is statutorily exempt from the California

Environmental Quality Act (Attachment 3); and

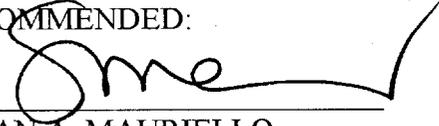
2. Adopt the attached Ordinance amending Chapter 13.10 of the Santa Cruz County Code that Conditionally Rezones Assessor's Parcel Numbers from the Special Use (SU) zone district to the Timber Production (TP) zone district (Attachment 5).

Sincerely,



Alvin D. James
Planning Director

RECOMMENDED:



SUSAN A. MAURIELLO
County Administrative Officer

cc: Peter Twight 1395 41st Avenue, Suite D Capitola, CA 95010
Roger and Michelle Burch 2 W. Santa Clara Street 9th Floor San Jose, CA 95 113

- Attachments:
1. Findings
 2. Conditions of Approval
 3. CEQA Exemption
 4. Planning Commission Resolution No. 1-00
 5. Ordinance Amending Chapter 13.10 of the County Code changing properties from one zone district to another
 6. Planning Commission Staff Report of April 12, 2000
 7. Planning Commission Minutes of April 12, 2000

SAM/ADJ/CLC 99-0186 Empire Kings Bdreport.wpd

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REZONING FINDINGS

1. THE PROPOSED ZONE DISTRICT WILL ALLOW A DENSITY OF DEVELOPMENT AND TYPES OF USES WHICH ARE CONSISTENT WITH THE OBJECTIVES AND LAND-USE DESIGNATIONS OF THE ADOPTED GENERAL PLAN; AND,

As conditioned, the rezone will allow a density of development and types of uses which are consistent with the objectives and the land use designations of Mountain Residential. The uses will more closely conform with the General Plan as a result of the zoning of two parcels which lie within a Timber Resource designation, contain timber resources meeting the timber stocking requirements, which are contiguous to a Timber Production zoned parcel within the same ownership as defined in Section 38 106 of the Revenue and Taxation Code and have been used for the growing and harvesting of timber as demonstrated in Timber Harvest Permit I-97-254 SCR and evidence of logging in the early 1970's.

Subject to the concurrent approval of the attached conditions limiting the location of building sites to areas that will not interfere with future timber harvest operations, the rezone will allow a density of development and types of uses which are consistent with the objectives and the land use designations of Mountain Residential. Condition II.A limits the use of these roads to those compatible with the County's General Plan policies for timber harvest roads, and requires that all County permits must be obtained prior to using any new roads, as defined in Chapter 16.22, for any other purpose. Requiring that any dwelling be located a minimum of 300 feet from any timber landing ensures that development of a future dwelling will not preclude or interfere with any future timber harvesting use. The 300 foot distance, provides an appropriate separation between potential future residential uses and for falling trees, as well as the access, staging and use of heavy equipment associated with logging and the stockpiling of logs for transportation.

Subject to the conditions of approval, the uses will more closely conform with the General Plan as a result of the rezoning of these parcels which contain timber resources meeting the timber stocking requirements, which are contiguous with Timber Production zoned parcels within the same ownership and under different ownership and have a continuous timber growing and harvesting use, which can no longer be pursued under the current zoning designation.

2. THE PROPOSED ZONE DISTRICT IS APPROPRIATE OF THE LEVEL OF UTILITIES AND COMMUNITY SERVICE AVAILABLE TO THE LAND; AND,

The proposed TP zone district is appropriate to the level of utilities and community services available to the parcel. The subject parcel is accessed via a private right-of-way which has been used in the recent past for timber haul routes on the subject parcels and other nearby Timber Production properties. The parcels are located outside of the Urban Services Line and is, therefore, rural in nature.

3. THE PROPOSED REZONING IS NECESSARY TO PROVIDE FOR A COMMUNITY RELATED USE WHICH WAS NOT ANTICIPATED WHEN THE ZONING PLAN

WAS ADOPTED,

The proposed rezoning is necessary to provide for a community related use - timber harvesting and timberland management. Timber harvesting was permitted in the SU zone districts in the past in certain circumstances under the jurisdiction of the County and later under the sole authority of the California Department of Forestry. The subject properties were harvested under a California Department of Forestry permit in 1997-98. Zoning Ordinance 4577 adopted on December 14, 1999 no longer allows timber related uses within the Special Use zone district regardless of the timber resource designation. The subject parcels contain timber stands meeting the timber stocking standards and lie entirely within a designated Timber Resource area. The rezoning will allow the continuation of harvesting and management of the timberlands on the subject parcels and the adjacent Timber Production land.

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CONDITIONS OF APPROVAL

Approval No. 99-O 186

Applicant: Peter Twilight

Property Owner: Roger and Michele Burch

Assessor's Parcel Nos. 089-01 1-4 1 and 43

Property location and address: The property is located 400 feet north of Logan Creek, approximately 1/4 mile from Kings Creek Road. No situs.

San Lorenzo Valley Planning Area

Exhibits: K. Timber Harvest Plan 1-97-254 SCR dated June 1997 prepared by Peter Twilight, Registered Professional Forester

- I. This approval authorizes the rezoning of parcels 089-O 1 1-4 1 and 43 to the Timber Production zone district. Prior to revision of the Zoning Map and to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the Zoning Approval Holder shall:
- A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.
 - B. Record the conditions of rezoning on the subject parcel. The Zoning Approval Holder shall submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder) within 90 days of final approval of the rezoning by the Board of Supervisors.
- II. Site Conditions.
- A. Any future logging road constructed under a timber harvest permit is a "new road" as defined in Chapter 16.22.030 of the County Code. Any use of a new logging road, constructed under the terms of a State timber harvest permit, for a purpose connected in any way with subsequent "development", as defined by Section 13.10.700-D of the County Code, is strictly prohibited unless all required County permits are first obtained.
 - B. The access roads on APNs 089-011-41 and 43 shown in Exhibit K are pre-existing roads. These roads will meet the definition of a "new road" and be subject to the restrictions set forth in Condition II.A. if any improvements resulting in over 100 cubic yards of grading along any 500 foot length are made to the road.
 - C. Any single family dwelling and/or other structures shall be designed and sited to be physically compatible with the growing and harvesting of a sustained yield tree crop, as well as be consistent with the purposes of the Forest Taxation Reform Act

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of 1976 and sections 13.10.371 to 13.10.375 of the County Code.

Any proposed single family dwelling or other non-timber growing and harvesting use shall be consistent with any future timber harvesting or timber production use on the subject parcel.

- D. Timber stands meeting minimum stocking standards shall be maintained as required by Section 13.10.375(c)3.
 - E. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the Zoning Approval Holder shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.
 - F. Future timber harvesting shall conform with the applicable cutting restrictions set forth in Chapter 13.10.695 “Locational Criteria for Timber Harvesting” of the County Code.
- III. As a condition of this rezoning approval, the holder of this rezoning approval (“Zoning Approval Holder”), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys’ fees), against the COUNTY, its officers, employees, and agents to attack, set aside, void, or annul this zoning approval of the COUNTY or any subsequent amendment of this approval which is requested by the Zoning Approval Holder.
- A. COUNTY shall promptly notify the Zoning Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Zoning Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Zoning Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Zoning Approval Holder.
 - B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:
 1. COUNTY bears its own attorney’s fees and costs; and
 2. COUNTY defends the action in good faith.

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- C. Settlement. The Zoning Approval Holder shall not be required to pay or perform any settlement unless such Zoning Approval Holder has approved the settlement. When representing the County, the Zoning Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the zoning approval without the prior written consent of the County.
- D. Successors Bound. "Zoning Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.
- E. Within 90 days of the adoption of this Zoning approval, the Zoning Approval Holder shall record in the office of the Santa Cruz County Recorder an agreement which incorporates the provisions of these conditions, or this Zoning approval shall become null and void.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

ATTACHMENT 0684

3

The County of Santa Cruz has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15329 of CEQA for the reason(s) which have been checked on this document.

Application No. 99-O 186

Assessor Parcel Nos. 089-O 1 1-4 1 and 43

Project Location: The property is located 400 feet north of Logan Creek, approximately 1/4 mile from Kings Creek Road.

Project Description: Proposal to rezone Assessor's Parcel Numbers 089-011-41 and 43 from the Special Use ("SU") zone district to the Timber Production ("TP") zone district. Requires a Rezoning.

Person or Agency Proposing Project: Peter Twight for Roger and Michele Burch

Phone Number: (83 1) 464-8788

- A. _____ The proposed activity is not a project under CEQA Guidelines, Sections 1928 and 501.
- B. _____ Ministerial Project involving only the use of fixed standards or objective measurements without personal judgement.
- C. XXXX Statutory Exemption other than a Ministerial Project.
Specify type: Article 17, Section 1703. Timberland Preserves

D. Categorical Exemption

- | | |
|---|--|
| 1. Existing Facility | 17. Open Space Contracts or Easements |
| 2. Replacement or Reconstruction | 18. Designation of Wilderness Areas |
| 3. New Construction of Small Structure | 19. Annexation of Existing Facilities/Lots for Exempt Facilities |
| 4. Minor Alterations to Land | 20. Changes in Organization of Local Agencies |
| 5. Alterations in Land Use Limitations | 21. Enforcement Actions by Regulatory Agencies |
| 6. Information Collection | 22. Educational Programs |
| 7. Actions by Regulatory Agencies for Protection of the Environment | 23. Normal Operations of Facilities for Public Gatherings |
| 8. Actions by Regulatory Agencies for Protection of Nat. Resources | 24. Regulation of Working Conditions |
| 9. Inspection | 25. Transfers of Ownership of Interests in Land to Preserve Open Space |
| 10. Loans | |
| 11. Accessory Structures | 26. Acquisition of Housing for Housing Assistance Programs |
| 12. Surplus Govt. Property Sales | 27. Leasing New Facilities |
| 13. Acquisition of Land for Wild-Life Conservation Purposes | 28. Small Hydroelectric Projects at Existing Facilities |
| 14. Minor Additions to Schools | 29. Cogeneration Projects at Existing Facilities |
| 15. Minor Land Divisions | |
| 16. Transfer of Ownership of Land to Create Parks | |

E. _____ Lead Agency Other Than County:

Cathleen Carr
Cathleen Carr, Project Planner

Date: May 15, 2000

**BEFORE THE PLANNING COMMISSION
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA**

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RESOLUTION NO. 1-00

On the motion of Commissioner : OSMER
duly seconded by Commissioner : RUTH
the following Resolution is adopted:

PLANNING COMMISSION RESOLUTION
SENDING RECOMMENDATION TO THE BOARD OF SUPERVISORS
ON PROPOSED AMENDMENT TO THE ZONING ORDINANCE

WHEREAS, the Planning Commission has held a public hearing on Application No. 99-0186, involving property located 400 feet north of Logan Creek, approximately 1/4 mile from Kings Creek Road, and the Planning Commission has considered the proposed rezoning, all testimony and evidence received at the public hearing, and the attached staff report.'

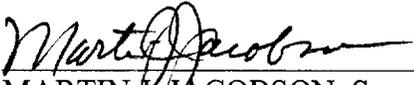
NOW, THEREFORE, BE IT RESOLVED, that the Planning Commission recommends that the Board of Supervisors adopt the attached ordinance amending the Zoning Ordinance by conditionally changing APNs 089-O 1 1-4 1 and 43 from the "SU" Special Use zone district to the "TP" Timber Production zone district.

BE IT FURTHER RESOLVED, that the Planning Commission makes findings on the proposed conditional rezoning as contained in the Report to the Planning Commission.

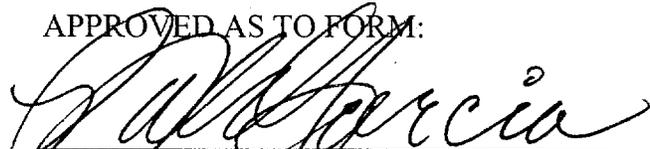
PASSED AND ADOPTED by the Planning Commission of the County of Santa Cruz, State of California, this 12th day of April, 2000, by the following vote:

AYES:	COMMISSIONERS: OSMER, RUTH, BREMNER, HOLBERT, SHEPHERD
NOES:	COMMISSIONERS
ABSENT:	COMMISSIONERS
ABSTAIN:	COMMISSIONERS


ROBERT BREMNER, Chairperson

ATTEST: 
MARTIN F. JACOBSON, Secretary

APPROVED AS TO FORM:


COUNTY COUNSEL

ORDINANCE NO. _____

**ORDINANCE AMENDING CHAPTER 13
OF THE SANTA CRUZ COUNTY CODE
CHANGING FROM ONE ZONE DISTRICT TO ANOTHER**

The Board of Supervisors of the County of Santa Cruz ordains as follows:

SECTION I

The Board of Supervisors finds that the public convenience, necessity and general welfare require the amendment of the County Zoning Regulations to implement the policies of the County General Plan and Local Coastal Program Land Use Plan regarding the properties located 400 feet north of Logan Creek, approximately 1/4 mile from Rings Creek Road; finds that the zoning established herein is consistent with all elements of the Santa Cruz County General Plan; and finds and certifies that all environmental regulations specified in the California Environmental Quality Act, the State and County Environmental Guidelines, and Chapter 16.01 of the County Code have been complied with by the preparation and approval of a Statutory Environmental Exemption for the project.

SECTION II

The Board of Supervisors hereby adopts the recommendations of the Planning Commission for the Zoning Plan amendment as described in Section III, and adopts their findings in support thereof without modification as set forth below:

1. The proposed zone district will allow a density of development and types of uses which are consistent with the objectives and land use designations of the adopted General Plan; and
2. The proposed zone district is appropriate of the level of utilities and community services available to the land; and
3. a) The character of development in the area where the land is located has changed or is changing to such a degree that the public interest will be better served by a different zone district; or
- b) The proposed rezoning is necessary to provide for a community related use which was not anticipated when the zoning plan was adopted; or
- c) The present zoning is the result of an error; or
- d) The present zoning is consistent with the designation shown on the General Plan.

SECTION III

Chapter 13.10, Zoning Regulations, of the Santa Cruz County Code is hereby amended by

amending the County Zoning Plan to change the following properties from the existing zone district to the new zone district as follows:

<u>Assessor's Parcel Number</u>	<u>Existing Zone District</u>	<u>New Zone District</u>
089-011-41	"SU"	"TP"
089-01 1-43	"SU"	"TP"

SECTION IV

The rezoning which results from this ordinance shall not become operative until and unless: (1) a Declaration of Restrictions for the property, reviewed and approved by the County Planning Director, has been duly executed and recorded; and (2) the recording of said Declaration of Restrictions takes place within 90 days following the date that the Board of Supervisors adopts this ordinance. This ordinance shall be null and void if said Declaration of Restrictions is not recorded in the manner, and by the time required by this section. The Declaration of Restrictions shall contain the following provisions:

- A. Any future logging road constructed under a timber harvest permit is a "new road" as defined in Chapter 16.22.030 of the County Code. Any use of a new logging road, constructed under the terms of a State timber harvest permit, for a purpose connected in any way with subsequent "development", as defined by Section 13.10.700-D of the County Code, is strictly prohibited unless all required County permits are first obtained.
- B. The access roads on APNs 089-011-41 and 43 shown in Exhibit K of the April 12, 2000 Planning Commission staff report are pre-existing roads. These roads will meet the definition of a "new road" and be subject to the restrictions set forth in Condition II.A. if any improvements resulting in over 100 cubic yards of grading along any 500 foot length are made to the road.
- C. Any single family dwelling and/or other structures shall be designed and sited to be physically compatible with the growing and harvesting of a sustained yield tree crop, as well as be consistent with the purposes of the Forest Taxation Reform Act of 1976 and sections 13.10.371 to 13.10.375 of the County Code.

Any proposed single family dwelling or other non-timber growing and harvesting use shall be consistent with any future timber harvesting or timber production use on the subject parcel.

- D. Timber stands meeting minimum stocking standards shall be maintained as required by Section 13.10.375(c)3.
- E. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the Zoning Approval Holder shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement

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actions, up to and including permit revocation.

- F. Future timber harvesting shall conform with the applicable cutting restrictions set forth in Chapter 13.10.695 "Locational Criteria for Timber Harvesting" of the County Code.

SECTION V

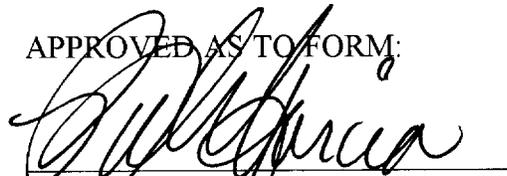
This ordinance shall take effect on the 31st day after the date of final passage.

PASSED AND ADOPTED this 13th day of ~~June~~ 2000, by the Board of Supervisors of the County of Santa Cruz by the following vote:

AYES: SUPERVISORS
 NOES: SUPERVISORS
 ABSENT: SUPERVISORS
 ABSTAIN: SUPERVISORS

MARDI WORMHOUDT
 Chairperson of the Board of Supervisors

ATTEST: _____
 Clerk of the Board

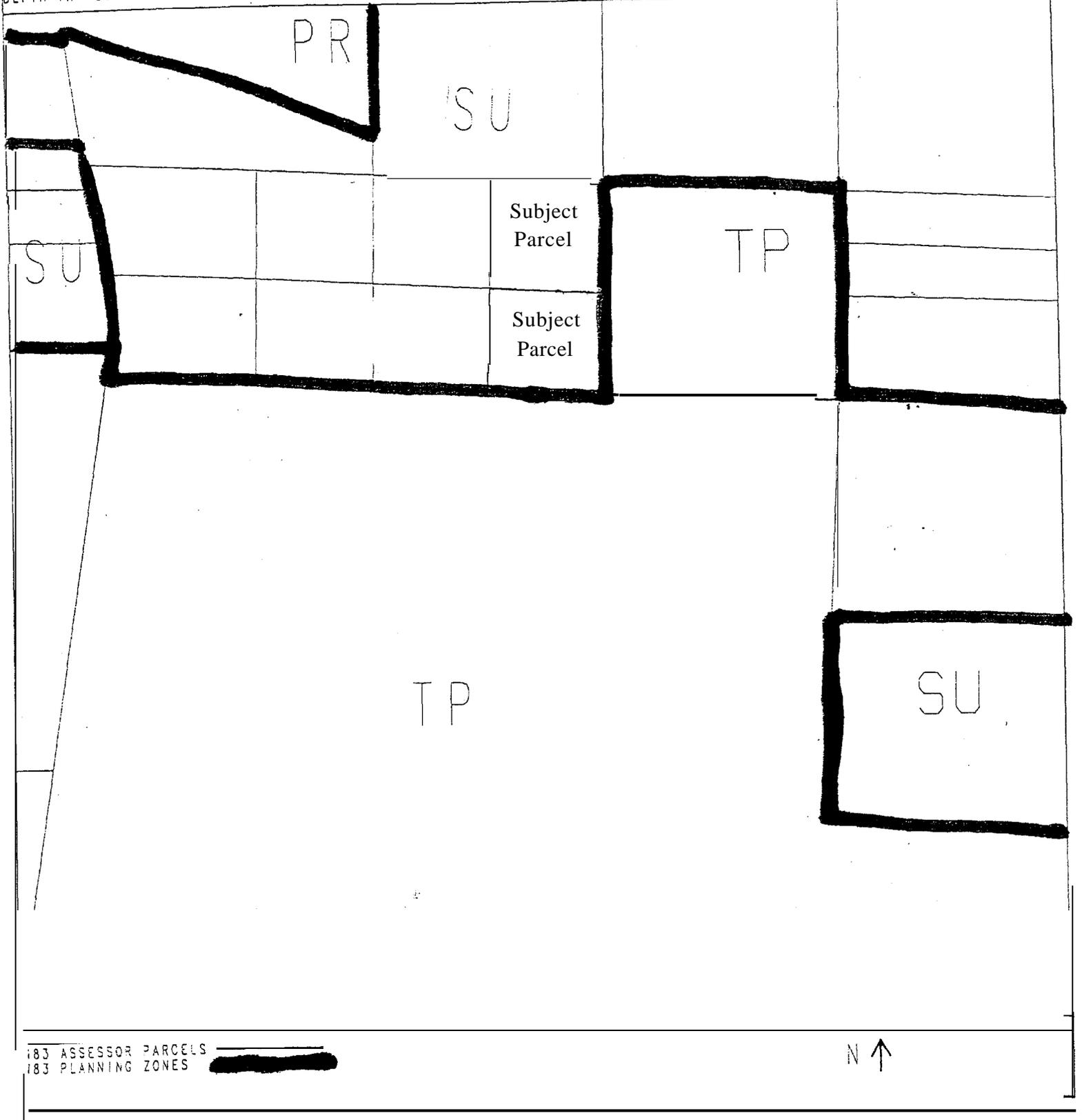
APPROVED AS TO FORM:


 Assistant County Counsel

DISTRIBUTION: County Counsel
 Planning- Cathleen Carr
 Planning -Bernice Romero
 Assessor

REQUEST ID: 99-0186

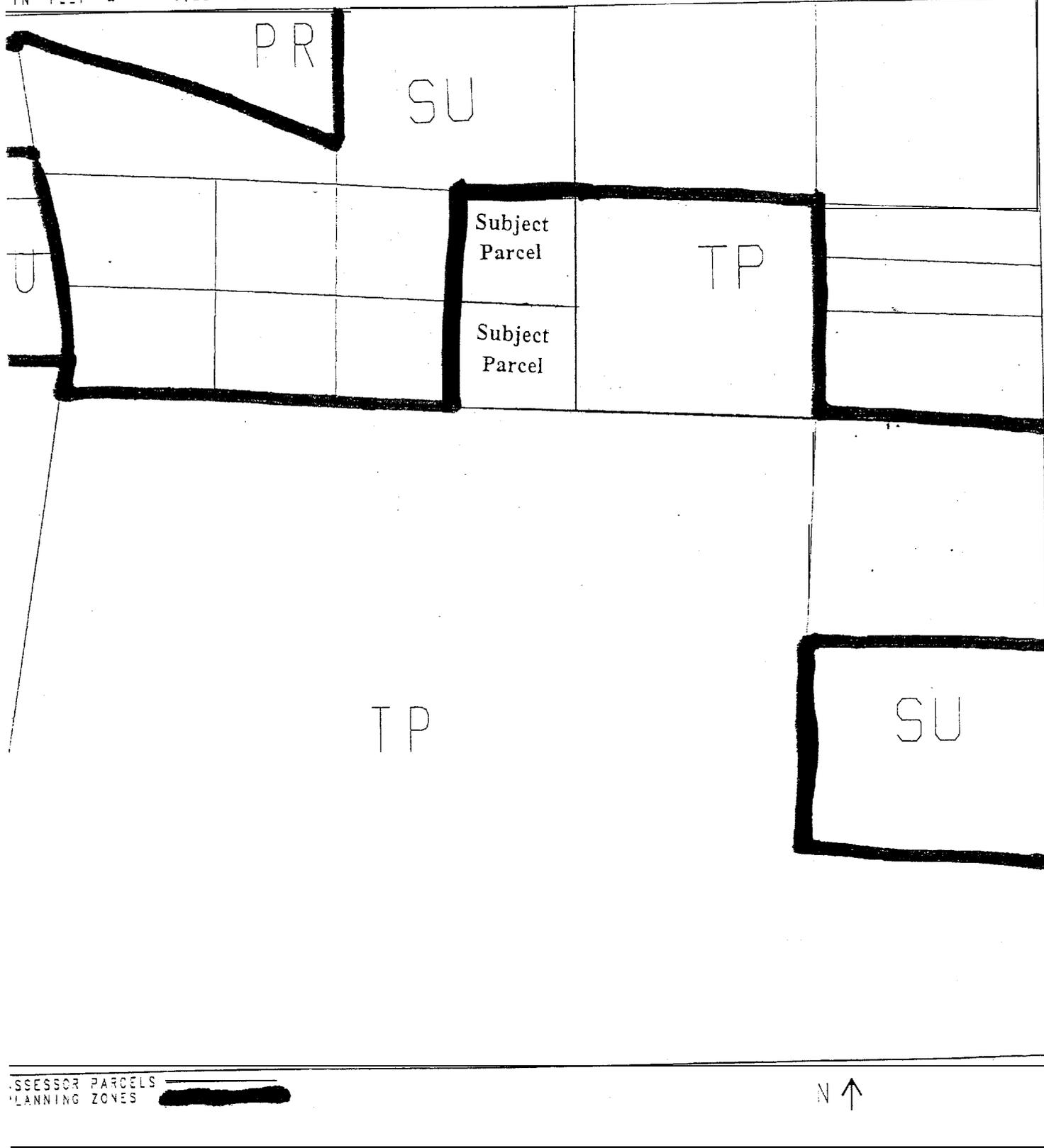
SCALE (FT/INCH) = 811
WIDTH IN FEET = 6,438.26
DEPTH IN FEET = 6,225.15



EXISTING ZONING

(FT/INCH) = $\frac{1}{8}$
 IN FEET = 6,438.26
 IN FEET = 8,225.15

REQUEST ID: 99-0186



PROPOSED ZONING

STAFF REPORT TO THE PLANNING COMMISSION

APPLICATION NO.: 99-0186

APNS: 089-011-41 and 43

APPLICANT: Peter Twilight

OWNER: Redwood Empire - Roger and Michele Burch

PROJECT DESCRIPTION: Proposal to rezone Assessor's Parcel Numbers 089-01 1-41 and 43 from the Special Use ("SU") zone district to the Timber Production ("TP") zone district. Requires a Rezoning.

LOCATION: The property is located 400 feet north of Logan Creek, approximately 1/4 mile from Kings Creek Road.

FINAL ACTION DATE: Exempt from the Permit Streamlining Act (Legislative Action)

PERMITS REQUIRED: Zoning Ordinance Amendment

ENVIRONMENTAL DETERMINATION: Statutory exemption from CEQA per section 1703

COASTAL ZONE: yes XXno

PARCEL INFORMATION

PARCEL SIZE: 089-01 1-41 10 acres
 089-01 1-43 10 acres

EXISTING LAND USE: PARCEL: Vacant rural and timber production lands

SURROUNDING: Vacant rural, timber production, organized camps/conference centers and rural residential

PROJECT ACCESS: Sleeper Creek Road - a private right-of-way

PLANNING AREA: Skyline Planning Area

LAND USE DESIGNATION: "R-M" Mountain Residential

ZONING DISTRICT: 089-011-41 "SU" Special Use
 089-01 1-43 "SU" Special Use

SUPERVISORIAL DISTRICT: Fifth

ENVIRONMENTAL INFORMATION

Item

Comments

- | | |
|----------------------|--|
| a. Geologic Hazards | a. Located within a County designated fault zone (Butano Fault) |
| b. Soils | b. Ben Lomond-Felton complex |
| c. Fire Hazard | c. Parcel 43 mapped within a critical fire zone |
| d. Slopes | d. 25 to 75+% |
| e. Env. Sen. Habitat | e. Riparian Habitat - Sleeper Gulch |
| f. Grading | f. Minimal - existing skid trails and timber landings |
| g. Tree Removal | g. Future Timber Harvest Proposed |
| h. Scenic | h. None mapped; not visible from any designated scenic road. |
| i. Drainage | i. N/A |
| j. Traffic | j. N/A |
| k. Roads | k. Access via private road(Sleeper Creek Rd) from Kings Creek Rd |

- l. Parks 1. N/A
- m. Sewer Availability m. N/A
- n. Water Availability n. N/A
- o. Archeology o. None mapped

SERVICES INFORMATION

W/in Urban Services Line: ___yes **XX** no

Water Supply: Private Well - currently undeveloped
Sewage Disposal: Septic - currently undeveloped
Fire District: California Department of Forestry Fire District
Drainage District: Zone 8

ANALYSIS & DISCUSSION

Background

On March 29, 1999, the County Planning Department accepted this application for rezoning two parcels totaling about 20 acres from the Special Use (SU) zone district to Timber Production (TP). This rezoning has been applied for under the California State Government Code Section 51113.5 "Petition by owner to add to timberland production zone". Under Section 5 1113.5, an owner with timberlands in a timberland production zone may petition the Board to add to his or her timberland production lands provided that the subject land is devoted to and used for growing and harvesting timber, or for timber production and compatible uses, is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre and is contiguous to the timberland already zoned as timberland production in the same ownership. Section 5 1113.5 states that Section 5 1113 shall not apply to these lands. The pertinent sections of the California Government Code are included as Exhibit J. County Code Section 13.10.375 (c) zoning to the TP district specifies the six criteria which must be met in order to rezone to TP under Section 5 1113. These criteria, however, do not apply to this rezoning application. This project qualifies for a statutory exemption (Exhibit C) in accordance with the California Environmental Quality Act and the County Environmental Review Guidelines (Article 17, Section 1703).

Project Setting

The project site is located in the Skyline planning area with access via a private 50 foot right-of-way off of Kings Creek Road (Exhibit E). The subject parcels are 10 acres each and, except for existing logging roads and landings, are currently undeveloped. The topography of the properties can be characterized as steeply sloping mountain terrain (40 to 75%) with some areas of more moderate slopes (25 to 40%). The subject parcels both drain towards Sleeper Gulch, a perennial stream via sheet flow and several Class III tributaries. Sleeper Gulch flows roughly east to northwest across the parcels and is a tributary to Kings Creek located about 3/4 miles downstream. Due to natural impassible barriers, Sleeper Gulch does not support any anadromous fish. The existing logging roads and landings on the subject parcels have been maintained for erosion control with waterbars

and reseeded areas.

Assessor's Parcel Number 089-01 1-02 is an approximately 210 acre, Timber Production zoned parcel. The subject parcels are contiguous to this TP zoned property along the southern property line of parcel 089-01 1-43. These three parcels are under the ownership of one person, as defined in Section 3 8 106 of the Revenue and Taxation Code, and together these properties encompass about 133 acres. Exhibit G shows the physical relationship of these parcels.

The subject parcels were selectively harvested under Timber Harvest Permit 1-97-254 SCR (Exhibit K) in 1997-98. This timber harvest plan also indicated that these properties were extensively harvested in the 1970's, which created the existing logging roads and landings. These properties were clear cut in the mid to early 1900's and no old growth trees remain. The 2 10 acre TP parcel was last harvested in 1988-89 under THP 1-88-519 SCR. A Registered Professional Forester has prepared a letter for the property owner stating that the subject properties are contiguous to Timber Production zoned lands and that the subject properties qualify as timberlands pursuant to Section 5 1104 of the Government Code (Exhibit L). As demonstrated in the 1997 Timber Harvest Plan, and as verified in the field and by a Registered Professional Forester, the subject parcels are capable of producing at least 15 cubic feet of timber per acre annually, thereby meeting the definition of timberland.

APNs 089-O 11-41 and 43 are zoned SU. Parcel 43 is bordered by TP zoned property (in the same ownership) on the south and by SU properties on the north (parcel 41 which also proposed for rezoning) and west. Both parcels are bordered by a TP zoned property (different owner) on the east. The Zoning Map for the subject parcels and the surrounding properties is included as Exhibit H.

General Plan & Zoning Consistency

Both subject parcels have a 1994 General Plan land use designation of Mountain Residential and are located entirely within a mapped Timber Resource designated area (Exhibit I). Parcels 089-O 11-41 and 43 are currently zoned Special Use. The Special Use and Timber Production zoning districts implement the Mountain Residential General Plan designation, as specified in Section 13.10.170 of the County Code.

None the subject lands are visible from a 1994 General Plan designated scenic road or are located within a mapped scenic resource area. The conditions (Exhibit B) proposed for this approval will also assure that any future development of the subject parcels will be compatible with a long-term timber use for which this rezoning is being proposed. Moreover, the conditions specify the uses for the logging roads, which are allowed under and consistent with the County's ordinances and General Plan policies. Condition II.F. specifies that future timber harvesting comply with current County regulations which include Chapter 13.10.695 Locational Criteria for Timber Harvesting which limits timber harvesting adjacent to streams.

In accordance with Section 5 1113.5 of the State Government Code, the project meets the following

criteria for rezoning to Timber Production:

1. The properties are contiguous with Timber Production zoned property under the ownership of one person, as defined in Section 38 106 of the Revenue and Taxation Code, (Exhibit G).
2. The properties are timberland, as they are capable of producing an average of 15 cubic feet of timber per acre annually.
3. The uses on the parcel are in compliance with the Timber Production Zone uses set forth in Section 13.10.372.

Conclusion

All of the criteria have been met for rezoning the subject parcels to the Timber Production zoning designation. All required findings can be made to approve this application and the rezoning is consistent with the General Plan policies and land use designations, subject to the attached conditions of approval (Exhibit B). Please see Exhibit A ("Findings") for a complete listing of findings and evidence related to the above discussion.

RECOMMENDATION:

Staff recommends that your Commission adopt the attached Resolution (Exhibit D), sending a recommendation to the Board of Supervisors for approval of Application No. 99-0186 based on the attached findings (Exhibit A) and subject to the attached conditions (Exhibit B), and certification of the determination that the project is statutorily exempt from CEQA (Exhibit C).

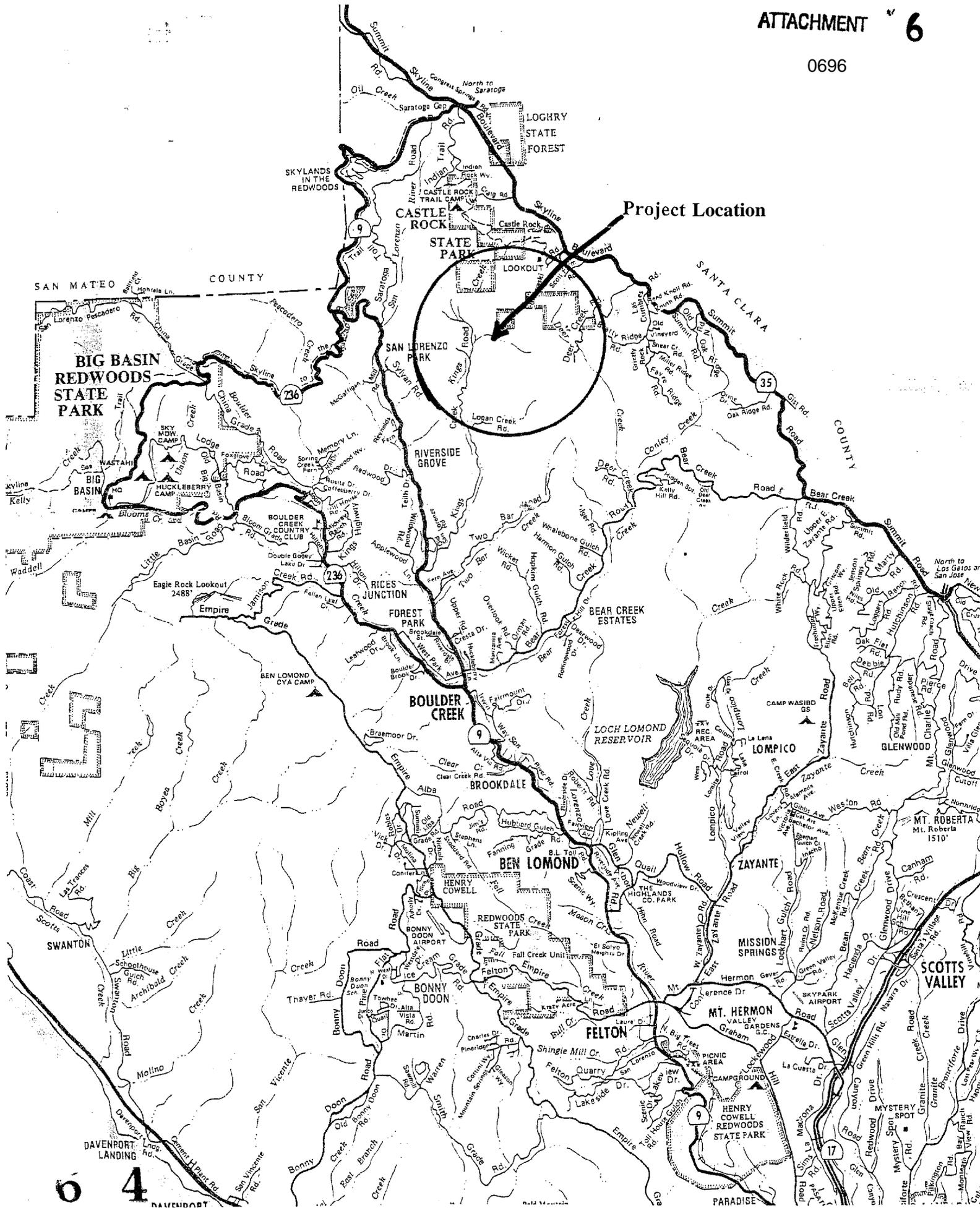
EXHIBITS

- A. Findings
- B. Conditions of Approval
- C. Notice of Exemption from CEQA
- D. Planning Commission Resolution
- E. Location Map
- F. Assessor's Parcel Map
- G. Map of Burch Properties
- H. Zoning Map
- I. General Plan Map and Timber Resource Map
- J. State Government Code Sections 5 1104, 5 1112, 5 1113 and 5 1 113.5
- K. Timber Harvest Plan 1-97-254 SCR by Peter Twight
- L. Letter by Peter Twight, dated March 22, 1999

SUPPLEMENTARY REPORTS AND INFORMATION REFERRED TO IN THIS REPORT ARE ON FILE AND AVAILABLE FOR VIEWING AT THE SANTA CRUZ COUNTY PLANNING DEPARTMENT, AND ARE HEREBY MADE A PART OF THE ADMINISTRATIVE RECORD FOR THE PROPOSED PROJECT.

Report Prepared By: Cathleen Carr
Cathleen Carr
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz CA 95060
Phone Number: (408) 454-3225

Report reviewed by: Martin J. Jacobson
Martin J. Jacobson, AICP
Principal Planner
Development Review



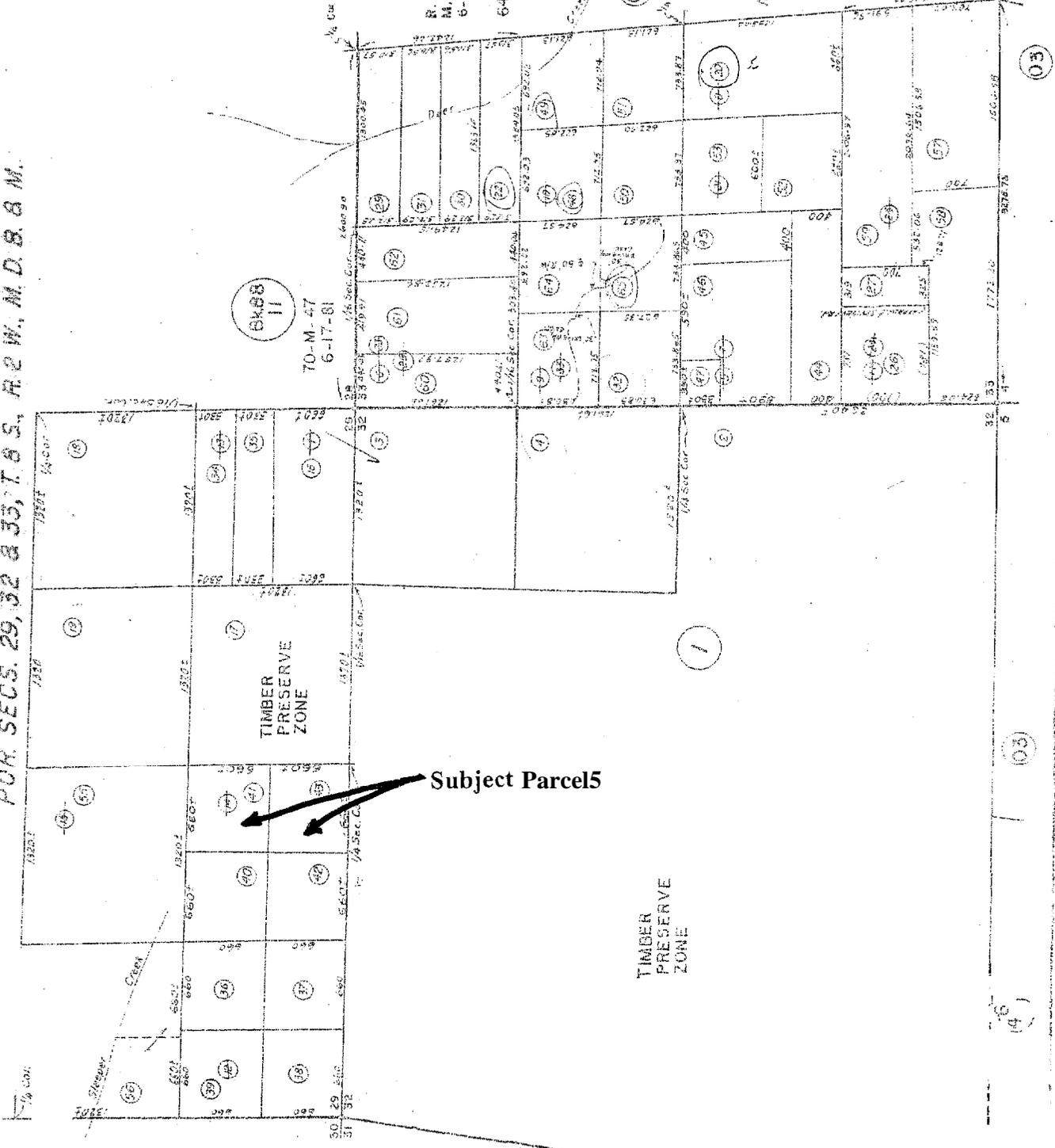
LOCATION MAP

EXHIBIT E

P.O.R. SECS. 29, 32 & 33, T. 8 S., R. 2 W., M. D. 8 & M.

Tax Area Code 82-01
90-018

SKY



Subject Parcel 5

0697

Noty - Assessor's Parcel Block &
Lot Numbers Shown in Circles

68-M-5
10-11-79

ATTACHMENT
Assessor's Map No. 801
County of Santa Cruz,
Aug. 1953

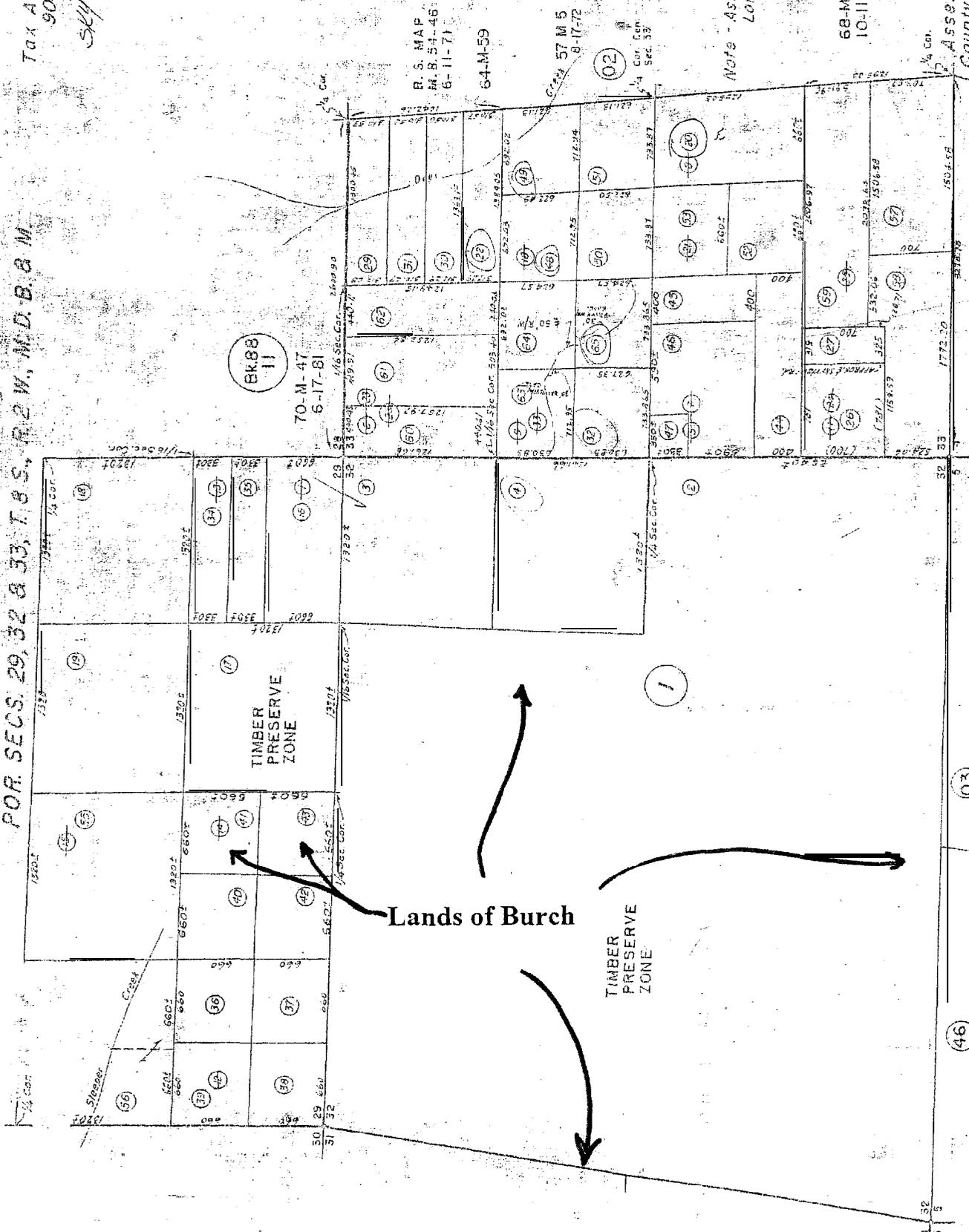
ASSESSOR'S PARCEL MAP

EXHIBIT F
6 4

POR. SECS. 29, 32 & 33, T. 8 S., R. 2 W., M. D. B. & M.

Tax Area Code 8
90-018

SKY



BK88
11

70-M-47
6-17-81

R. S. MAP
M. B. 54-46
6-11-71

64-M-59

57 M 5
8-17-72

Note - Assessor's Parcel
Lot Numbers Shown

ATTACHMENT

0698

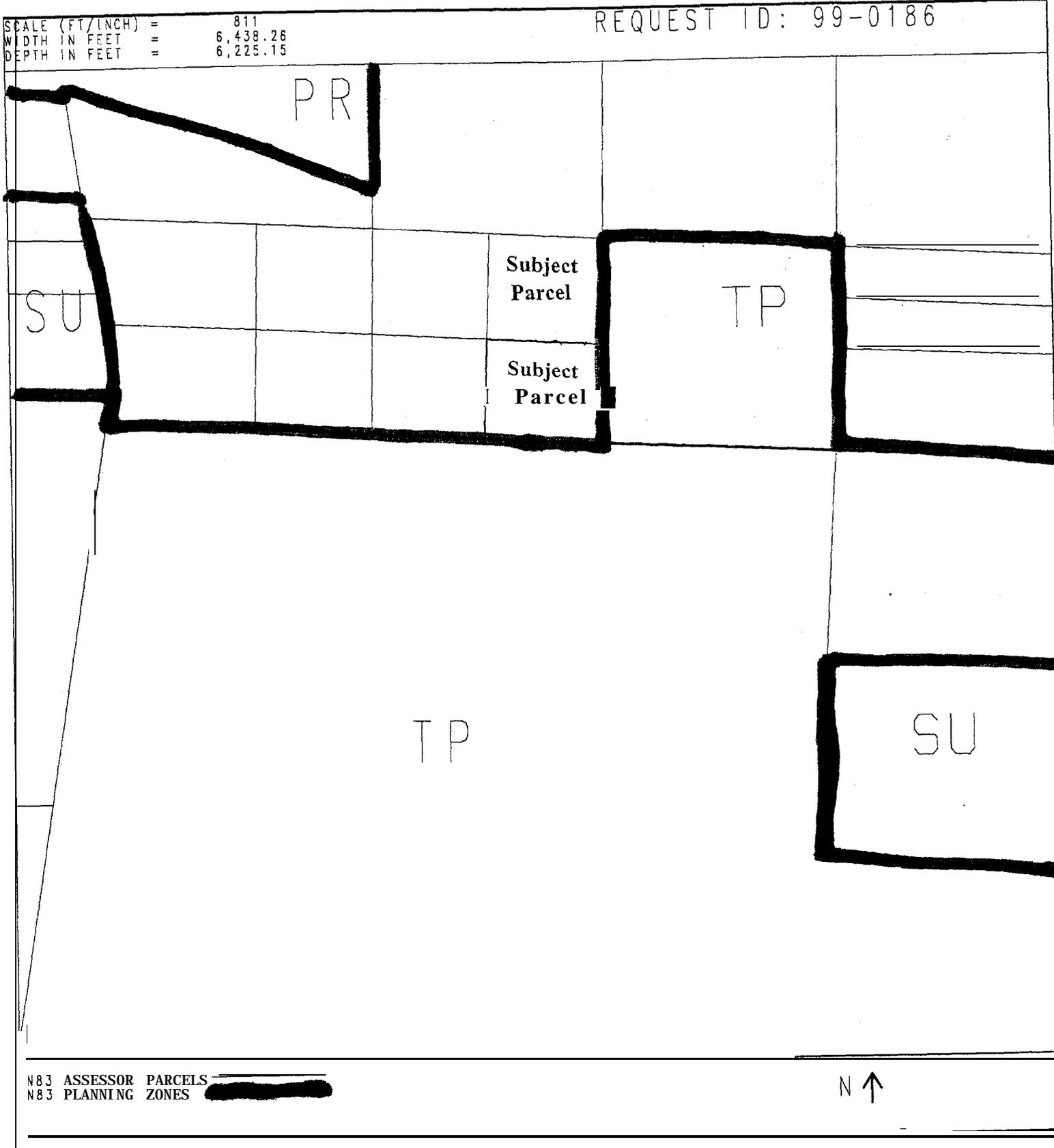
68-M-5
10-11-79

Assessor's No. 6
County of Santa Cruz
Aug. 1953

Lands of Burch

Lands of Burch

EXHIBIT G

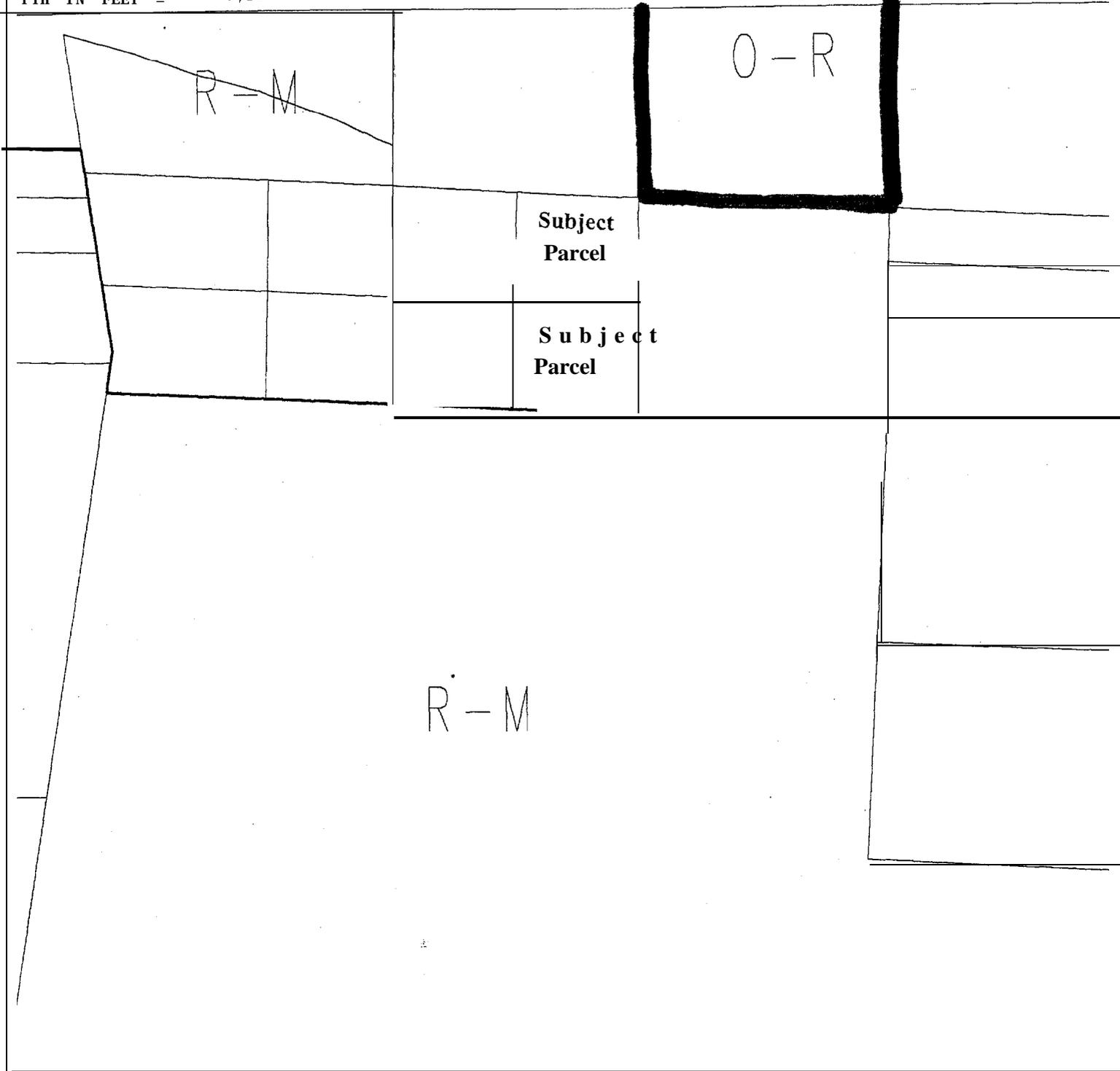


ZONING MAP

EXHIBIT H
6 4

REQUEST ID: 99-0186

ALE (FT/INCH) = 811
DTH IN FEET = 6,438.26
PTH IN FEET = 6,225.15



83 ASSESSOR PARCELS
83 G P BASE LAYER



GENERAL PLAN MAP

EXHIBIT 1

REQUEST ID: 99-0186

ALE (FT/INCH)	=	811
DTH IN FEET	" "	6,438.26
PTH IN FEET	" "	6,225.15

Subject Parcel

Subject Parcel

TIMBER

183 ASSESSOR PARCELS
 183 R&C TIMBER RESOU



TIMBER RESOURCES MAP

EXHIBIT I
 64

Collateral References:

Witkin Summary (9th ed) Taxation §184.

§ 51103. Legislative intent

It is the intent of the Legislature to implement the policies of this chapter by including all qualifying timberland in timberland production zones.

Added Stats 1982 ch 1459 §5.

Cross References:

"Timberland": Gov C §5 1104(f).

"Timberland production zone": Gov C §5 1104(g).

§ 51104. Definitions

As used in this chapter, unless otherwise apparent from the context:

(a) "Board" means the board of supervisors of a county or city and county, whether general law or chartered, which establishes or proposes to establish a timberland production zone pursuant to this chapter.

(b) "Contiguous" means two or more parcels of land that are adjoining or neighboring or are sufficiently near to each other, as determined by the board or council, that they are manageable as a single forest unit

(c) "Council" means the city council of a city, whether general law or chartered, which establishes or proposes to establish a timberland production zone pursuant to this chapter.

(d) "County" or "city" means the county or city having jurisdiction over the land.

(e) "Timber" means trees of any species maintained for eventual harvest for forest products purposes, whether planted or of natural growth, standing or down, on privately or publicly owned land, including Christmas trees, but does not mean nursery stock.

(f) "Timberland" means privately owned land, or land acquired for state forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre.

(g) "Timberland production zone" or "TPZ" means an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h).

With respect to the general plans of cities and counties, "timberland preserve zone" means "timberland production zone."

(h) "Compatible use" is any use which does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber, and shall include, but not be limited to, any of the following, unless in a specific instance such a use would be contrary to the preceding definition of compatible use.

§ 51110.5. Landowner's nonreceipt of notice listing parcels not assessed for growing and harvesting timber; Petition to board to have parcel included in list; Board's action

ATTACHMENT

6

In the event that a landowner does not receive notice pursuant to subdivision (b) of Section 5 1110.1, such owner may prior to January 1, 1978, petition directly to the board or council to have a parcel owned by such person included on list "B." Such owner must be able to demonstrate that on each such parcel a plan for forest management has been prepared, or approved as to content, by a registered professional forester prior to October 15 1977. Such plan shall provide for the harvest of timber within a reasonable period of time, as determined by the preparer of the plan.

In the event that the board or council finds that the parcel does in fact have plans for forest management signed by a registered professional forester prior to October 15, 1977, the board or council shall include the parcel listed in the petition on list "B" without respect to acreage or size and shall consider these parcels under subdivision (c) of Section 51112.

Added Stats 1977 ch 853 §5.5, effective September 17, 1977.

Collateral References:

Law Review Articles:

Review of Selected 1977 California Legislation., 9 Pacific LJ 563.

§ 51111. Compatible uses

On or before October 1, 1976, the board or council shall adopt a list and a detailed description of additional compatible uses for parcels zoned as timberland production.

Added Stats 1976 ch 176 §4.5, effective May 24, 1976; Amended Stats 1984 ch 678 §2.

A m e n d m e n t s :

1984 Amendment: Substituted "production" for "preserve" at the end of the section.

Cross References:

"Compatible use": Gov C §5 1104(h).

§ 51112. Zoning of parcels by board or council

(a) On or before March 1, 1977, the board or council by ordinance, after the advice of the planning commission pursuant to Section 51110.2, and after public hearing, shall zone as timberland production all parcels appearing on list A submitted by the assessor pursuant to subdivision (d) of Section 5 1110 which are not designated as "contest," unless it finds by a majority vote of the full body that a parcel or parcels are not devoted to and used for growing and harvesting timber or for growing and harvesting timber and compatible uses.

The basis for such a finding is limited to either of the following:

- (1) The parcel is not in fact capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre;
- (2) The use of the parcel has changed subsequent to the lien date in 1976, and that such use no longer meets the definition of timberland or of compatible uses as defined and as adopted by the board or council pursuant to Section 5 1 1 1 1 .

(b) On or before March 1, 1977, the board or council by ordinance, after the advice of the

EXHIBIT J
6 4

timberland production all parcels appearing on list A which are designated as "contested" pursuant to subdivision (c) of Section 51110, except those parcels which it finds by a majority vote of the full body to be in the public interest to exclude from such a zone.

ATTACHMENT

6

(C) On or before March 1, 1978, the board or council by ordinance, after the advice of the planning commission pursuant to Section 5 1110.2, and after public hearing, shall zone as timberland production all parcels appearing on list B submitted by the assessor pursuant to subdivision (c) of Section 5 1110.1, except those parcels which it finds by a majority vote of the full body to be in the public interest to exclude from such a zone.

0704

(d) On parcels excluded from the timberland production zone under this section, the board or council shall apply an aitenate zone which is in conformance with the county general plan and whose primary use is other than timberland, if no such appropriate zone currently applies to such parcels.

(e) The owner of the land shall be given written notice at least 20 days prior to the hearing of the board or council, and notice of hearing shall be published pursuant to Section 6061 of this code, and shall include a legal description, or the assessor's parcel number, of the land which is proposed to be included within the timberland production zone.

Added Stats 1976 ch 176 §4.5, effective May 24, 1976; Amended Stats 1984 ch 678 §3.

Amendments:

1984 Amendment: Substituted "timberland production" for "timberland preserve" wherever it appears.

Cross References:

"Board": Gov C §51104(a).

"Council": Gov C §5 1104(c).

Cancellation of contract: Gov C §51282.5.

Collateral References:

Ehrman & Flavin, Taxing California Property (3d ed) §19:03.

§ 51113. Zoning of land as timberland production upon petition of owner

(a)(1) After November 1, 1977, an owner may petition the board or council to zone his or her land as timberland production. The board or council by ordinance, after the advice of the planning commission pursuant to Section 5 1110.2, and after public hearing, shall zone as timberland production ail parcels submitted to it by petition pursuant to this section, which meet all of the criteria adopted pursuant to subdivision (c). Any owner who has so petitioned and whose land is not zoned as timberland production may petition the board or council for a rehearing on the zoning,

(2) This section shall not be construed as limiting the ability of the board or council to zone as timberland production any parcel submitted upon petition, which is timberland, defined pursuant to subdivision. (f) of Section 5 1104, and which is in compliance with the compatible use ordinance adopted by the board or council pursuant to Section 5 1 11.

(b) The board or council, on or before March 1, 1977, by resolution, shall adopt procedures for initiating, filing, and processing petitions for timberland production zoning and for rezoning. The rules shall be applied uniformly throughout the county or city.

(c) On or before March 1, 1977, the board or council by ordinance shall adopt a list of criteria required to be met by parcels being considered for zoning as timberland

EXHIBIT J

to those listed in this subdivision and in subdivision (d). The following shall be included in the criteria:

(i) A map shall be prepared showing the legal description or the assessor's parcel number of the property desired to be zoned.

0705

(2) A plan for forest management shall be prepared or approved as to content, for the proper & by a registered professional forester. The plan shall provide for the eventual harvest of timber within a reasonable period of time, as determined by the preparer of the plan.

(3) The parcel shall currently meet the timber stocking standards as set forth in Section 4561 of the Public Resources Code and the forest practice rules adopted by the State Board of Forestry for the district in which the parcel is located, or the owner must sign an agreement with the board or council to meet those stocking standards and forest practice rules by the fifth anniversary of the signing of the agreement. If the parcel is subsequently zoned as timberland production under subdivision (a), then failure to meet the stocking standards and forest practice rules within this time period provides the board or council with a ground for rezoning of the parcel pursuant to Section 5 112 1.

Upon the fifth anniversary of the signing of an agreement, the board shall determine whether the parcel meets the timber stocking standards in effect on the date the agreement was signed. Notwithstanding the provisions of Article 4 (commencing with Section 51130), if the parcel fails to meet the timber stocking standards, the board or council shall immediately rezone the parcel and specify a new zone for the parcel which is in conformance with the county general plan and whose primary use is other than timberland ;

(4) The parcel shall be timberland, as defined in subdivision (f) of Section 51104; and

(5) The parcel shall be in compliance with the compatible use ordinance adopted by the board or council pursuant to Section 5 1111.

(d) The criteria required by subdivision (c) may also include any or all of the following:

(1) The land area concerned shall be in the ownership of one person, as defined in Section 3 8 106 of the Revenue and Taxation Code, and shall be comprised of single or contiguous parcels of a certain number of acres, provided, that such number required may not exceed 50 acres.

(2) The land shall be a certain site quality class or higher under Section 434 of the Revenue and Taxation Code; provided, that the parcel shall not be required to be of the two highest site quality classes.

Added Stats 1976 ch 176 §4.5, effective May 24, 1976; Amended Stats 1977 ch 853 §6, effective September 17, 1977; Stats 1982 ch 1489 §6.

Amendments:

1977 Amendment: (1) Redesignated former subd (a) to be subd (a)(1); (2) added subd (a)(2); (3) added the second paragraph in subd (c)(3); and (4) added subds (c)(4) and (c)(5).

1982 Amendment: In addition to making technical changes, (1) substituted "production" for "preserve" after "timberland" wherever it appears in subds

substituted "Section 51104 for Section 51100 in subdivisions (c)(3) deleted "below" after "subdivision (d)" in the second sentence of subd (c); (4) substituted "(commencing with Section 51130)" for "Of this chapter" in the second paragraph of subd (c)(3); and (5) substituted "80 acres" for "160 acres or one quarter section" at the end of subd (d)(1).

Cross References:

- "Board": Gov C §51104(a).
- "Council": Gov C §51104(c).
- Procedure on filing of owner's written notice of desire to rezone: Gov C §51120.

0706

Collateral References:

Ehrman & Flavin, Taxing California Property (3d ed) §19:03.

Law Review Articles:

Review of Selected 1977 California Legislation, 9 Pacific LJ 563.

NOTES OF DECISION

A county ordinance requiring an owner of timberland to obtain a county use permit to commercially harvest the timber as a prerequisite for zoning the timberland property as a "timberland preserve zone" (TPZ) under the Forest Taxation Reform Act of 1976 (FTRA) (Gov. Code, §51110 et seq.), was in conflict with the FTRA and thus invalid. Nowhere in the list (Gov. Code, §51113) of the sole criteria required to be met by parcels to be considered for timberland preserve zoning is there a requirement that the owner must obtain a use permit for timber harvesting before qualifying for a TPZ, nor is the local government granted authority by the statute to demand one. Further, the Legislature intended property owners to enjoy the tax benefits of timberland preserve zoning during the long growing phase when they are unable to realize income on their timber. State of California v County of Santa Clara (1983, 1st Dist) 142 Cal App 3d 608, 191 Cal Rptr 204.

§ 51143.5. Petition by owner to add to timberland production zone; Land exchanges (a) After March 1, 1977, an owner with timberlands in a timberland production zone pursuant to Section 51112 or 51113 may petition the board or council to add to his or her timberland production lands that meet the criteria of subdivisions (f) and (g) of Section 51104 and that are contiguous to the timberland already zoned as timberland production. Section 51113 shall not apply to these lands,

(b) In the event of land exchanges with, or acquisitions from, a public agency in which the size of an owner's parcel or parcels zoned as timberland production pursuant to Section 51112 or 51113 is reduced, the timberland production shall not be removed from the parcel except pursuant to Section 51121 and except for a cause other than the smaller parcel size.

Added Stats 1976 ch 176 §4.5, effective May 24, 1976; Amended Stats 1977 ch 853 §7, effective September 17, 1977; Stats 1982 ch 1489 §7.

A m e n d m e n t s :

1977 Amendment: (1) Amended subd (a) by (a) deleting "recently acquire" after "his timberland preserve"; and (b) substituting "subdivisions (f) and (g) of Section 51100 and that are contiguous to the timberland already

FOR ADMIN. USE ONLY
Amendments - date & S or M

1. _____ 7. _____
 2. _____ 8. _____
 3. _____ 9. _____
 4. _____ 10. _____
 5. _____ 11. _____
 6. _____ 12. _____

TIMBER HARVESTING PLAN
 STATE OF CALIFORNIA
 DEPARTMENT OF FORESTRY
 AND FIRE PROTECTION
 RM-63 (9/94)

FOR ADMIN. USE ONLY

THP No. 1-97-254 SCR 0707

Dates Rec'd JUN 17 1997
JUN 25 1997

Date Filed JUL 9 5 1997

Date Approved AUG 22 1997

Date Expires AUG 21 2000

Extensions 1) [] 2) []

This Timber Harvesting Plan (THP) form, when properly completed, is designed to comply with the Forest Practice Act (FPA) and Board Of Forestry rules. See separate instructions for information on completing this form.

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SECTION I - GENERAL INFORMATION

This THP conforms to my/our plan and upon approval, I/we agree to conduct harvesting in accordance therewith. Consent is hereby given to the Director of Forestry and Fire Protection, and his or her agents and employees, to enter the premises to inspect timber operations for compliance with the Forest Practice Act and Forest Practice Rules.

1. TIMBER OWNER(S) OF RECORD: Name, Address, & Phone #
 Roger Burch
 Pacific States Industries
 2 West Santa Clara Street, 9th Floor
 San Jose CA 95113-1807

RECEIVED
 JUN 25 1997
 COAST AREA OFFICE
 RESOURCE MANAGEMENT

Signature *Roger Burch* Date 6/4/97

NOTE: The timber owner is responsible for payment of a yield tax. Timber Yield Tax information may be obtained at the Timber Tax Division, State Board of Equalization, P.O. Box 942879, Sacramento, California 9427913001.

2. TIMBERLAND OWNER(S) OF RECORD: Name, Address, & Phone #

same
 Signature _____ Date _____

RECEIVED
 JUN 17 1997
 COAST AREA OFFICE
 RESOURCE MANAGEMENT

3. LICENSED TIMBER OPERATOR(S): Name, Address, Phone #, & LTO #

• unknown at this time •

Signature _____ Date _____

4. PLAN SUBMITTER(S): Name, Address, & Phone #

If submitter is not 1, 2, or 3 above he/she must sign below and provide explanation of authority.

'3708

Signature Zeke & Liff Date 1 JUNE 1997

Redwood Empire manages the lands of Burch and is authorized by Mr. Burch to submit plans. As Resource Manager, Zeke Sechrest is authorized to sign on behalf of Redwood Empire.

5. if LTO is not present on-site list person to contact: on-site who is responsible for the conduct of the operation and represents the interests of the LTO. Name, Address, & Phone #

Tim Peet
Redwood Empire
1395 41st Avenue, Suite D
Capitola, CA 95010 408 464-8788

Yes No Will the timber operator be employed for the construction and maintenance of roads and landings during conduct of timber operations? If no, who is responsible?

Who is responsible for erosion control maintenance after timber operations have ceased and until certification of the Work Completion Report?

The Timber Operator.

6. a) Expected date of commencement of timber operations:

date of conformance, or within 5 days of Director's signature (date)

b) Expected date of completion of timber operations:

3 years from date of conformance, or _____(date)

7. The timber operation will occur within the:

- COAST FOREST DISTRICT The Tahoe Regional Planning Authority Jurisdiction
- Southern Subdistrict of the Coast F.D. A County with Special Regulations, identify:
Santa Cruz County
- SOUTHERN FOREST DISTRICT Special Treatment Area(s), identify:
- High use subdistrict of the Southern F.D.
- NORTHERN FOREST DISTRICT Other

a. Location of the timber operation by legal description:

Base and Meridian: Mount Diablo Humboldt San Bernardino

Section	Township	Range	Acreage	County	Assessor's Parcel Number
29	3s	2W	11	Santa Cruz	89-011-41
29	8S	2w	10	Santa Cruz	89-011-43

TOTAL ACREAGE 21* Optional

3. Yes No Is a Timberland Conversion Permit in effect? If yes, list permit number and date of expiration:

0. Yes No Is there an approved Sustained Yield Plan for this property? Number _____; Date app. _____

Yes No Has a Sustained Yield Plan been submitted but not approved? Number _____; Date sub. _____

11. Yes No Is there a THP or NTMP on file with CDF for any portion of the plan area for which a report of satisfactory stocking has not been issued by CDF?

0709

If yes, identify the THP or NTMP number(s):

12. Yes No Is a Notice of Intent necessary for this THP?

73. RPF preparing the THP: Name, address, phone #, RPF #

Peter A. Twight
1395 41st Avenue Suite D
Capitola, CA 95010 408-464-8788 RPF #2555

a) Yes No I have notified the plan submitter(s), in writing, of their responsibilities pursuant to Title 14 CCR 1035 of the Forest Practice Rules.

Yes No I have notified the timber owner and the timberland owner of their responsibilities for compliance with the Forest Practice Act and rules, specifically the stocking requirements of the rules and the maintenance of erosion control structures of the rules.

b) Yes No I will provide the timber operator with a copy of the approved THP. If "no", who will provide the LTO a copy of the approved THP?

I or my supervised designee will meet with the LTO prior to commencement of operations to advise of sensitive conditions and provisions of the plan pursuant to Title 14 CCR 1035.2.

c) I have the following authority and responsibilities for preparation and administration of the THP and timber operation. (Include both work completed and work remaining to be done):

I have the authority and responsibility for the preparation, submission, amendments, and supervision of the THP. This is also to serve as certification that the Notice of Intent has been mailed to those parties listed pursuant to section 924.1 & 926.3.

d) Additional required work requiring an RPF which I do not have the authority or responsibility to perform:

N/A

e) After considering the rules of the Board of Forestry and the mitigation measures, I have determined that the timber operation:

will have a significant adverse impact on the environment. (Statement of reasons for overriding considerations contained in Section III)

will not have a significant adverse impact on the environment.

Registered Professional Forester: I certify that I, or my supervised designee, personally inspected the THP area and the plan complies with the Forest Practice Act, the Forest Practice Rules and the Professional Foresters Law.

Signature Peter A. Twight Date 6/16/97

NOTE: If a provision of this THP is proposed that is different than the standard rule, the explanation and justification required must be included in Section III of the THP.

0710

14. Check the Silvicultural methods or treatments allowed by the rules that are to be applied under this THP. Specify the option chosen to demonstrate Maximum Sustained Production (MSP) according to 14 CCR 913.11 (933.11, 953.11). If more than one method or treatment will be used show boundaries on map and list approximate acreage for each.

- | | | | | | |
|--|--------|---|--|---|-----|
| <input type="checkbox"/> Clearcutting | ac. | <input type="checkbox"/> Shelterwood Prep. Step | ac. | <input type="checkbox"/> Seed Tree Seed Step | ac. |
| | | <input type="checkbox"/> Shelterwood Seed Step | ac. | <input type="checkbox"/> Seed Tree Removal Step | ac. |
| | | <input type="checkbox"/> Shelterwood Removal Step | ac. | | |
| <input checked="" type="checkbox"/> Selection 913.8(a) | 21 ac. | <input type="checkbox"/> Group Selection | ac. | <input type="checkbox"/> Transition | ac. |
| 75 square feet BA to be retained | | | | | |
| <input type="checkbox"/> Commercial Thinning | ac. | | <input type="checkbox"/> Sanitation Salvage | | ac. |
| <input type="checkbox"/> Special Treatment Area | ac. | | <input type="checkbox"/> Rehabilitation of Understocked Area | | ac. |
| <input type="checkbox"/> Alternative | ac. | | <input type="checkbox"/> Conversion | | ac. |

Total acreage 21 MSF Option Chosen (a) (b) (c)

a. If Group Selection or more than one method is applied how will LTO determine boundaries of each method or group on the ground?

b. Yes No Will average regeneration step units be larger than those specified in the rules (2/3 acre tractor, 3/4 acre cable)? if yes, units must be designated on map and listed by size.

N/A

c. Trees to be harvested or retained must be marked by or marked under the supervision of the RPF. Specify how the trees will be marked.

Coniferous timber will be harvested as per §913.8(a) and will be marked with blue stripes and base mark by and/or under the supervision of the RPF or otherwise felled under the supervision of the RPF.

Yes No Is a waiver of marking by the RPF requirement requested? If yes, how will LTO determine which trees will be harvested or retained?

d. Forest Products to be Harvested: Sawlogs, fuelwood, pulp wood, split products

e. Yes No Are group B species proposed for management?
 Yes No Are group B or non-indigenous A species to be used to meet stocking standards?

If answer to either is yes, list the species and provide the LTO with necessary felling guidance.
 Tanoak, liveoak and madrone.

Stocking standards within the §913.8(a) area will be met with Group A species.

In addition, the following hardwood management practices will be carried out within §913.8(a) areas to enhance Maximum Sustained Production and to improve the relative basal area position of Group A relative to Group B species per 14 CCR 912.7(c):

a. On tractor ground with good site class where hardwoods are a major part of the existing crown cover and are likely to slow growth of the residual conifer stand as well as regeneration, hardwoods will be cut, and openings planted with conifers.

b. Tractor ground where hardwoods fill openings between redwood clumps and a significant opportunity exists to increase conifer stocking. hardwoods will be cut and openings planted with conifers.

c. Hardwoods damaged or cut during falling or skidding will be removed and openings planted with conifers, except skid trails, roads and landings.

0711

Liveoak, tanoak, and madrone will be managed in areas described in 14.e. a,b,&c above for fuelwood and/or pulp logs as well as re-establishing and insuring more natural levels of conifer stocking. Group B basal areas range from about 120 square feet to about 4.00 square feet. About 60% of the hardwood basal area will be removed, depending on RPF judgement concerning shade and crown canopy requirements for conifer regeneration and protection of wildlife values. Brush and slash will be crushed or lopped to leave planting sites and to facilitate nutrient recycling. Planting conifers at 300 trees/acre will be done where site quality will support additional coniferous growth.

The RPF and/or designee(s) will advise and supervise the LTO in the conduct of operations in these areas.

f. Other instructions to LTO concerning felling operations.

See Item 14(e) above concerning felling of hardwoods per RPF instructions. See Item 27 (c) regarding exceptions to falling away from a watercourse. Avoid damage to hardwoods and other trees shading class II watercourse. Protect trees with raptor nests.

g. Yes No Will artificial regeneration be required to meet stocking standards? .

h. Yes No Will site preparation be used to meet stocking standards? If yes, provide the information required for a site preparation addendum.

PESTS

15. Yes No Are there any adverse insect, disease or pest problems of significance in the THP area? If yes, describe the proposed measures to improve the health, vigor and productivity of the stand(s).

HARVESTING PRACTICES

16. Indicate type of yarding system and equipment to be used:

- | | | |
|---|--|---|
| GROUND BASED* | CABLE | SPECIAL |
| a) <input checked="" type="checkbox"/> Tractor, including end/long lining | d) <input type="checkbox"/> Cable, ground lead | g) <input type="checkbox"/> Animal |
| b) <input checked="" type="checkbox"/> Rubber tired skidder, Forwarder | e) <input type="checkbox"/> Cable, high lead | h) <input type="checkbox"/> Helicopter |
| c) <input type="checkbox"/> Feller buncher | f) <input type="checkbox"/> Cable, Skyline | i) <input type="checkbox"/> Other _____ |

* All tractor operations restrictions apply to ground based equipment.

17. Erosion Hazard Rating: Indicate Erosion Hazard Ratings present on THP. (Must match EHR worksheets)

Low Moderate High Extreme

If more than one rating is checked, areas must be delineated on map to 20 acres in size (10 acres for high and extreme EHRs in the Coast District).

18. Soil Stabilization:

- A. Soil erosion control specifications are listed below in the sequence in which they were flagged during field work (Map Point numbers under paragraph A are referenced on the plan map and in the field with the corresponding numbers).

0712

Map Point

- R-1. Point R-1 is located just west of crossing #5. A large berm will be pushed up to insure that no water from the top of the trail can travel down the trail. Also, any waterbars installed in the WLPZ will not drain into the class II below trail.
- R-2. Point R-2 is located approximately 20 ft East of crossing #3. A small dip is needed in the trail to allow water from the cutbank to flow directly across the trail.
- R-3. The outside edge of an existing skid trail has sloughed off in conjunction with slide #1, leaving the trail only 9 ft wide for approximately 40 ft. An extra 2 ft of width is needed, and can be achieved by cutting into the bank without sidecasting. A brow log can be used. Material will be incorporated into the trail surface and strongly outsloped from the ridge to the draw. A waterbar should be installed at the ridge to remove water above this area. Hardwoods will be felled or skidded and placed below the trail at this point and lopped to reduce erosion. The new skid trails west of R-3 shall not be built if permission can be obtained for access across existing skid trails on adjacent lands,
- R-3. The most feasible way to access timber on the North 1/3 of the property is by constructing a trail from crossing #4 to the upper road. This requires that a 35 ft portion of ridge be cut down to achieve useable grade of 50% from 70%. Temporary hardwood crib logs will be placed below the cut to crib material created during construction and use. At the end of operations, most of the fill material in the swale from the cut will be pushed back up into the cut, the trail thru the cut will be daylighted, out sloped, seeded, straw mulched and slashed. This trail allows access to the existing road for skidding, thereby reducing the amount of overall ground disturbance. Several hundred feet of the road must be skidded on to avoid constructed skid trails. The road will be smoothed following use and re-rocked with Class 2 base rock from Langley Hill Quarry. This treatment may be modified by consultation and agreement with John Jackson of the neighboring parcel.
- R-5. This is located north of crossing #4 on the proposed trail. The trail utilizes a small swale and should be slash packed until the trail flattens near crossing #4. Also a waterbar has been flagged above the swale to remove water from the trail.
- R-6. This portion of trail is south of crossing #4. The trail should be slash packed from the intersection of trails to the crossing. A large berm will be placed at the top of the trail, at the intersection with existing trail.
- R-7. There is a small portion of existing haul road that enters the WLPZ of a class II for about 70 ft. This portion of road will be rocked with 2 inch drain rock prior to October 15.
- Crossing #1. This crossing is below slide #1 on an existing skid trail. The watercourse is dry in the summer months, and shall be dipped out and straw mulched or slash packed.
- Crossings K-3. These dry crossings are both east of landing B on existing skid trails. Previous timber operations used a portion of the Class III for skidding, and as a result, the watercourse was diverted from its natural channel. No significant damage has occurred, but it is desirable to reestablish the proper flow of water. Both skid trails will cross the channel as close to perpendicular as possible to allow for easy dipping out. Large berms

will be placed below the crossings to insure proper water flow. In addition, the portion of trail that ran up the watercourse will not be used and is flagged in red.

Crossing# 4 This is a temporary skid crossing of a Class II watercourse north of landing B. It is anticipated that the crossing will be wet at the time of operations and need a pipe to allow water to flow under the crossing. It is proposed that a crossing be built on a nearly flat section of the watercourse. An 8 inch steel pipe will be placed in the channel with small redwood or hardwood poles placed along side of the pipe. Cable or chokers will be bound around the pipe and poles to allow the crossing to be pulled as a bundle at the end of operations. Filter fabric will then be placed on top of the poles. Approximately 15 unopened bales of straw will be put down in a layer, or enough to allow skidding without disturbance to the stream channel. Dirt will be placed onto the bales before skidding along with a brow log along the down stream side to prevent sidecast. The crossing is expected to be approximately 12ft x 20ft. At the end of operations, the dirt will be bladed off away from the watercourse so that the bundle can be pulled as a unit. The remaining straw can be applied to the crossing. A log shall be sunk into the earth and angled to divert overland flow of water to the east across the skid trail about 25 feet south of the crossing.

Crossing# 5 This is an existing crossing of a class II and shall be installed to the same specifications as crossing # 4. An 8 inch steel pipe, poles, fabric, chokers or cable and straw as well as a brow log on the downstream side will be needed at this crossing.

A wet area east of the crossing will need to be corduroyed with hardwood or redwood logs for approximately 30ft. This wet area is not in the flow of water, but has a high water table and could present a problem during skidding if not treated. It is assumed that this area will be wet at the time of operations. Dirt can be placed on top of the logs for skidding, but must be bladed off following skidding so as not to create a pond. Dirt should be pushed to the east of the trail away from the WLPZ. The WLPZ will be strawed through the crossing.

B. Waterlines

1. The 1 inch domestic waterline east of Crossing #5 will need to be dismantled before felling and skidding and reassembled at the end of the day or as otherwise determined through consultation and/or agreement with the water user. Operations in this area shall be coordinated with Steve Pearl of Vajrapani Institute.
2. The 1 inch domestic waterline near R-5 will need to be dismantled before felling and skidding and reassembled at the end of the day or as otherwise determined through consultation and/or agreement with the water user. The water user has said the line will be removed (salvaged) prior to THP activation.
3. Waterline and telephone line have been buried under the road about 2 feet as of July 1997.

C. Road Protections:

1. Just below (west of) the THP and property boundary, the existing haul road crosses a class III. A berm will be installed on the downhill side of the crossing to keep water from traveling on the road. This berm will be left in a condition to allow vehicle access after operations have ended. The road surface of this crossing will be rocked with 2 inch drain rock and 6 inch gabion rock will be placed at the outfall in conjunction with existing large woody material to stop the down cutting into the road. The portion of the haul road east from the crossing through the Sleeper Gulch WLPZ will be rocked with 2 inch drain rock.
2. Approximately 950 ft west of the property line, the haul road crosses a Class IX. This crossing will be dipped to allow water to flow directly across the road. This dip will be

located as close to the 36 inch redwood as possible, with seed and straw being placed on the crossing from the top of the waterbar above the crossing. to the cop of the waterbar below the crossing.

3. Sleeper Creek road and the private road leading to the adjacent Krupocki et al THP, will be maintained to the existing standards. At the end of operations. the approaches to the flat bar crossing controlled by the Boy Scouts will be waterbarred by hand and rocked to provide a depth of three inches of drain rock.

0714

4. We will explore replacement of the culvert crossing of Sleeper Gulch with the neighboring land owners using a bridge.

D. Skidding protections:

- 1. No blading shall be done within 50 feet of any Class III watercourse except at crossings.
- 2. All class III watercourses will have a variable width (10 feet or more with filter capacity equivalent to E below) Equipment Exclusion Zone to prevent any additional channel disturbance. These zones will be in areas where equipment could result in sediment moving into the watercourse, and will be flagged prior to operations (§ 4.4.1, CESA 1996).
- 3. Large woody debris in Class II or III watercourses will not be disturbed if holding back sediment bedload, or providing other benefit to the watercourse..
- 4. No new skid trails will be constructed on siopes greater than 50%, except as flagged and approved by CDF (see #21 below).
- 5. All skid trails within 25 feet of a Class III watercourse shall be seeded and straw mulched including approaches.

E. Bared areas including road surfaces greater than 100 square feet within a Class II WLPZ shall be mulched with straw (90% coverage to a loose depth of 4 inches) or slash prior to 15 October or within 10 days of creation if after 15 Oct (§ 4.2.4, CESA. 1996).

F. Wherever straw mulching is specified, it shall be mulched to a four inch loose depth over 90% of the area and done so prior to 15 October or within ten days of creation if after 15 October. Seeding means 40 lbs. per acre of annual ryegrass prior to October 15, or within 10 days after October 15.

G. RPF or designees shall flag landing drainage. Outfall from landing drainage on all landings is to be armored by landing debris so as to prevent down cutting of the landing edge.

H. The RPF is to flag waterbars on sections of road or skid road above slides. Waterbars shall be placed with frequency at the rare for extreme EHR.

I. Minimal sidecast is defined as sidecast no more than one foot thick, feathering out within 30 feet of the road.

J. The road will be watered to control dust as needed during hauling. not exceeding twice daily. Prior to water removals from stream ~~after August 15~~ LTO shall notify RPF who will consult with DF&G. Pickup of water shall be designed to provide continuous flow of water. Drafting hose shall be lined with a protective screen if water is taken where fish may be present.

- 19. Yes No Are tractor OR skidder constructed layouts to be used? If yes, specify the location and extent of use:
- 20. Yes No Will ground based equipment be used within the area(s) designated for cable yarding? If yes, specify the location and for what purpose the equipment will be used?

21. Within the THP area will ground based equipment be used on:

- a) Yes No Unstable soils or slide areas?
b) Yes No Slopes over 65%?
c) Yes No Slopes over 50% with high or extreme EHR?
d) Yes No Slopes over 50% which lead without flattening to a Class I or Class II watercourse or lake?

ATTACHMENT

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0715

List specific measures to minimize the effects of the use of ground based equipment for each yes checked:

b) Tractor Operations on Slopes >65%

Tractor operations on slopes over 65% refers to a short 35 ft section of proposed skid trail that will cut down through a portion of 70%+ slope to reach a bench below (See Item 18.A. Map point R-4). In addition, there will be some "long-lining" from existing stable roads, skid trails and other stable areas. No heavy equipment will be on slopes greater than 65% except on such existing stable structures for the purpose of long-lining.

22. Yes No Are any alternative practices to the standard harvesting or erosion control rules proposed for this plan? If yes, list specific instructions to the LTO.

WINTER OPERATIONS

23. Yes No Will timber operations and/or mechanical site preparation, occur during the winter period? If yes, explain which activities will take place.

A winter operating plan is as follows; or

In lieu of a winter operating plan Site specific measures to be followed are:

- A Winter operations shall be limited according to 14 CAC 914.7(c). In addition, winter operations are further limited as follows:
- B. Tractor yarding or the use of tractors shall be done only during dry, rainless periods where soils are not saturated. That is to say, when soil moisture conditions result in loss of traction by equipment when compared to machine performance on the same or similar areas under dry soil conditions, or when adequate traction cannot be achieved without the blading of wet soil.
- C. Only one landing together with the road serving it and a single tractor trail will be open and in use at a given time. All other roads and trails will be fitted with erosion control structures as per the plan and the rules. Roads shall be prepared prior to the winter season with either rolling dips and/or outsloped at waterbar intervals for easy construction of hand waterbars to Forest Practice Standards if winter shutdown becomes necessary and tractor waterbars cannot be installed because of adverse weather.
- D. Erosion control structures shall be installed on all skid trails and tractor roads prior to the end of the day if the U.S. Weather Service forecast is a "chance" (30% or more) of rain before the next day, and prior to weekend or other shutdown periods.
- E. Timber operations except chainsaw work shall be stopped after 4 inches of rain has accumulated in the town of Boulder Creek as recorded by the Santa Cruz Sentinel or November 15 whichever comes first No tractor operations across Class IIs in winter period (see map).

EXHIBIT K
6 4

G. All chainsaw operations are permitted during the winter period. except that felling in the WLPZ will not be permitted.

NOTE: All water breaks and rolling dips must be installed by October 15 or as prescribed above.

ROADS AND LANDINGS

24. Yes No Will any roads or landings be constructed or reconstructed. If yes, check items a through h: 0716
- a. Yes No Will new roads be wider than single lane with turnouts?
 - b. Yes No Will any landings exceed one half acre in size?
 - c. Yes No Are logging roads or landings proposed in areas of unstable soils or known slide-prone areas?
 - d. Yes No Will new roads exceed a grade of 15% or have pitches of up to 20% for distances greater than 500 feet?
 - e. Yes No Are roads to be constructed or reconstructed, other than crossings, within the WLPZ of a watercourse?
 - f. Yes No Will roads or landings longer than 100 feet in length be located on slopes over 65%, or on slopes over 50% which are within 100 feet of the boundary of a WLPZ?
 - g. Yes No Are exceptions proposed for flagging or otherwise identifying the location of roads to be constructed?
 - h. Yes No Will any roads, watercourse crossings, or associated landings be abandoned?

25. If any section in item 24 is answered yes, specify site-specific measures to reduce adverse impacts and list any additional or special information concerning the construction, maintenance and/or abandonment of roads or landings.

The boundaries of the upper landing have been flagged. Excavated material is to be incorporated into the landing or road surface. but not sidecast.

Landings will be shaped to disperse water, with landing drainage location flagged by RPF. In addition, landing edges are to be flagged prior to operations. Waterbars for truck roads and skid trails will be installed as per 14CCR 914.6. All class III crossings and associated fill will be removed as per 14 CCR 923.3(d).

WATERCOURSE AND LAKE PROTECTION ZONE (WLPZ) AND DOMESTIC WATER SUPPLY PROTECTION MEASURES:

26. Yes No Are there any watercourse or lakes which contain Class I through IV waters on or adjacent to the plan area? If yes, list the class, WLPZ width, and protective measures determined from Table I and/or 14 CCR 916.4 (c) [936.4 (c), 956.4 (c)] of the WLPZ rules for each watercourse. Additional measures are prescribed, to meet the CESA 1996 Biological Opinion. The plan map delineates the classifications of watercourses.

This THP is in the upper reaches of Sleeper Gulch which is a tributary to Kings Creek, a steelhead and potential coho salmon recovery stream. The Plan has a Class II watercourse running East/West through the plan area. a Class II tributary and three Class III watercourses. Class II watercourses require a 50 foot protection zone for slopes up to 30%, 75 for slopes greater than 30% and less than 50%, and 100 Feet for slopes over 50% where cable yarding is not used. Within the WLPZ, protection is provided by flagging its-boundary in advance of the preharvest inspection [CESA 1996], retention of canopy,

structure, filter capacity, and at least 25% of existing conifer overstory, as well as marking of the harvest trees prior to the PHI (CESA 1996) by RPF or designee (including a basemark). Because of the protection requirements for cool water, the WLPZ has been marked and inspected during the PHI to provide 75% protection against solar heating (Ibid 4.3). To prevent sediment effects on anadromous fish any bared areas other than road surfaces greater than 100 square feet (Ibid) shall be mulched with straw (to a loose depth of 4 inches) or slash prior to 15 October or within 10 days of creation if after 15 October.

Operations except lopping within all WLPZs will be stopped after the first major winter storm system drops 0.1 inches of rain following October 1, *no felling during the winter period in the WLPZ. (8/27/97 RD, phone contact)*

Class III watercourses may require defined zones (EEZ) and have been designated herein to avoid additional sediment generation (§ 4.4.1. CESA). Also, any soil accidentally deposited will be removed as per 916.4(c)(3), and slash and debris will be removed if it could be transported by water or would divert water against banks to cause erosion: otherwise it will be stabilized. This will be done prior to October 15 per 916.4(c)(3). In addition, large woody debris which are retaining sediments will not be disturbed (Ibid).

27. Are site specific practices proposed in-lieu Of the following standard WLPZ practices?

- a. Yes No Prohibition of the construction or reconstruction of roads, construction or use of tractor roads or landings in Class I, II, III, or IV watercourses, WLPZs, marshes, wet meadows, and other wet areas except at prepared crossings.
- b. Yes No Retention of non-commercial vegetation bordering and covering meadows and wet areas?
- c. Yes No Directional felling of trees within the WLPZ away from the watercourse or lake?
- d. Yes No Increase or decrease of width(s) of the WLPZ(s)?
- e. Yes No Protection of watercourses which conduct class IV waters?
- f. Yes No Exclusion of heavy equipment from the WLPZ?
- g. Yes No Retention of 50% of the overstory canopy in the WLPZ?
- h. Yes No Retention of 50 % of the understory in the WLPZ?
- i. Yes No Are any additional in-lieu or any alternative practices proposed for watercourse or lake protection?

If any of a. through i. are answered yes, describe and clearly locate the place(s) where the in-lieu or alternative will be used. Reference the in-lieu and location to the watercourse, Provide site specific instructions to the LTO as required.

c). Directional Felling of Trees Within the WLPZ Away From the Watercourse or Lake

§916.3(c) states that trees within the WLPZ shall be felled away from the watercourse, but that exceptions may be proposed and used when approved. In lieu of the standard fall away practice, we propose that "to the fullest extent possible and with due consideration given to topography, lean of trees, landings, utility Lines, local obstructions, and safety factors, trees shall be felled to lead in a direction away from watercourses and lakes" (as per §9 14.1) and we propose limited exceptions of falling across a watercourse where:

- a) In an area where there would be more damage resulting from felling them away from the stream (for example, when a tree felled away from the watercourse may slide back into the watercourse carrying soil into the watercourse, or where a tree might shatter or cause a great deal of breakage if felled directly away from the watercourse);
- b) The lean of the tree or its location in a clump that is within thirty feet of the stream makes felling away from the stream impossible even by jacking or pulling, and the tree can be felled so it is perpendicular to the stream with its main crown twenty feet or more from the stream; and
- c) Only when in addition to either of the above, no damage to the watercourse will result.

There are expected to be only 9 such trees within the Class II WLPZ which has been marked.

Implementation of this in lieu practice will allow for cutting of trees which cannot be feasibly managed without felling across a watercourse. Some trees may be upon unstable features near watercourses and possess very heavy lean. Because of the "clumpy" nature of second growth redwoods, clumps near watercourses produce situations where the only alternative to falling across the watercourse is to permanently preclude individual trees from management, thus foregoing growth, yield and frequently threatening the watercourse sooner or later to an uncontrolled tree and/or root wad input to the stream. Recruitment of large woody debris (LWD) does not appear to be an issue in these Class II watercourses.

The locations where each event will take place will not be known until the trees marked for cutting are evaluated by a professional timber faller. These measures provide for retaining productivity and utilization while minimizing the potential for significant adverse impacts upon the watercourse and its beneficial uses as per §916.4(b).

f). Exclusion of Heavy Equipment from the WLPZ

Approximately 100ft of the existing skid trail west of crossing #5 will be in the WLPZ of a Class II watercourse, as will 50 ft of trail to the east. It is necessary to use this trail to access the timber at the east end of the property, and will result in the least amount of ground disturbance. This trail is stable, and will not need blading to be reopened. The portions of the trails in the WLPZ will be straw mulched or slash packed prior to Oct. 15th (§ 42.4 CESX 1996).

CCR 916.4 (a) states that the use of existing roads in the WLPZ will be evaluated by the RPF. A 75 ft portion of the haul road exists in the WLPZ and per Item 18.C.1 will be rocked with 2 inch drain rock (§ 4.2.2 CESA 1996).

- 3. Yes No Were all landowners within 1000 feet downstream of the THP boundary notified by letter for information regarding domestic water supplies? If no, request exemption in Section III.
Yes
- Yes No Was a notice requesting information regarding domestic water supplies published in a newspaper of general circulation in the area? If no, request exemption in Section III.
Yes
- Yes No Was any information received on domestic water supplies that required additional mitigation beyond that required by standard Watercourse and Lake Protection rules? If yes, list site specific

- 29. Yes No Is any part of the THP area within a Sensitive Watershed as designated by the Board of Forestry? If yes, identify the watershed and list any special rules, operating procedures or mitigation that will be used to protect the resources identified at risk?

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HAZARD REDUCTION:

- 30. Yes No Are there roads or improvements which require slash treatment adjacent to them? If yes, specify the type of improvement, treatment distance, and treatment method.
- 31. If piling and burning is to be used for hazard reduction, who will be responsible for compliance?
 LTO Timberland Owner Timber Owner - If more than one, specify extent of responsibility.

N/A

BIOLOGICAL AND CULTURAL RESOURCES

- 32. Yes No Are any listed species, including their habitat, associated with the THP area? If yes, identify the species and the provisions to be taken for the protection of the species.

Steelhead are present and coho salmon are a potential recovery species in Kings Creek which is downstream from the plan boundary almost 3500 ft. The San Lorenzo River support-steelhead and a small run of Coho Salmon and is an additional 4 miles downstream. The THP has the potential to negatively effect steelhead and coho salmon recovery, however the mitigations of the standard rules and the special requirements of Section 4 of the conservation measures in the Biological Opinion (CESA 1996) will mitigate and even improve the downstream habitat for steelhead and coho salmon. For additional information refer to the Wildlife Protection portion of Section EL

Redlegged frogs and their habitat are unlikely along Sleeper Gulch. but wandering juveniles could be present during periods of moisture. Operations except lopping within all WLPZs will be stopped after the first major winter storm system drops 0.1 inches of rain following October 1.

- 33. Yes No Are there any snags which must be felled for fire protection or safety reasons? If yes, describe which snags are going to be felled and why.
- 34. Yes No Are any Late Succession Forest Stands proposed for harvest? If yes, describe the measures to be implemented by the LTO that avoid long-term significant adverse effects on fish, wildlife and listed species known to be primarily associated with late succession forests.
- 35. Yes No Are any other provisions for wildlife protection required by the rules? If yes, see Section III.
- 36. a. Yes No Has an archaeological survey been made of the THP area?
 b. Yes No Has an archaeological records check been conducted for the THP area?
 c. Yes No Are there any archaeological or historical sites located in the THP area? If yes, protection measures are described in Section V of the THP.
- 37. Yes No Has any inventory or growth and yield information designated "trade secret" been submitted in a separate confidential envelope with this THP?
- 38. Describe any special instructions or constraints which are not listed elsewhere in Section II.

CAUTION signs will be posted at approximately 1 mile intervals or at blind turns and near

intersections along Kings Creek road, and at the intersection with Pool Road to warn of the presence of large trucks. Truck speed is limited to that which allows stopping in 1/2 the sight distance.

ATTACHMENT

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§926.9 Hours of Work

0720

Hours of Work restrictions provides for the protection of residential areas from the noise associated with the earlier work hours typically desired by the logger for more efficient logging, worker safety, and reduced risk of fire. Due to the remoteness of the area it is requested that this rule be modified to allow chainsaw work as early as 6 am on weekdays and chainsaw work, and tractor yarding, after 8 am on Saturdays and Sundays. This would reduce the risk of fire by permitting felling during a cooler, higher humidity part of the day. It would allow felling and yarding on weekends which would shorten the logging period. Early startups will be stopped if significant complaints from the immediate neighbors (such as Vajrapani) occur. There would be no hauling on weekends. In addition, weekend provisions for routine equipment maintenance and procedures such as road watering are requested.

Logging in WLPZs is restricted following the first major winter storm after October 1 which produces more than 0.1 inch of rain in order to protect wandering juvenile redlegged frogs.

Erosion control maintenance shall be 3 years from the date of Work Completion (CESA 1996 §4.2g).

DIRECTOR OF FORESTRY AND FIRE PROTECTION

This Timber Harvesting Plan conforms to the rules and regulations of the @card of Forestry and the Forest Practice Act:

By: [Signature]
 (Signature)

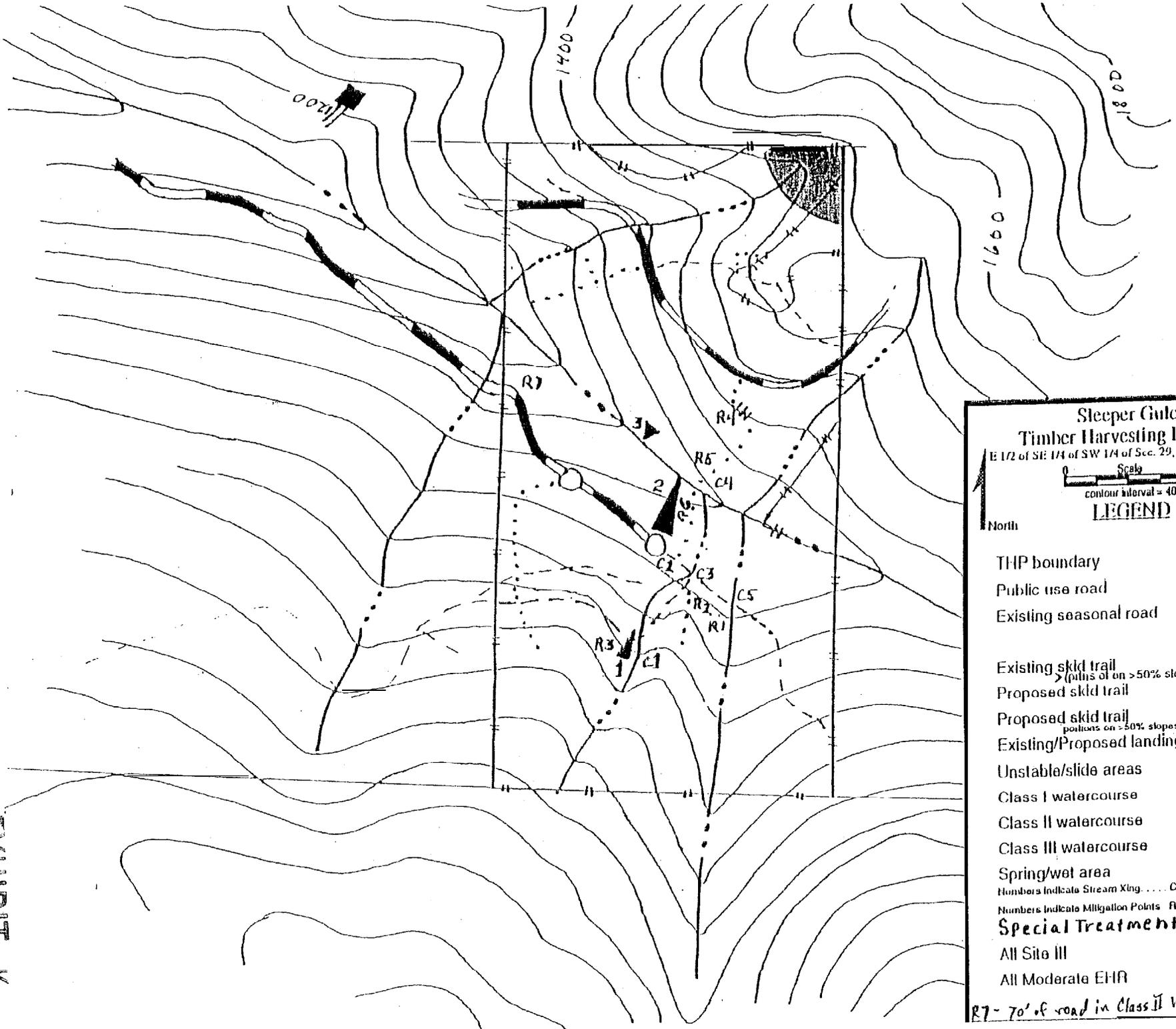
Thomas P. Sipewell
 (Printed Name)

PROFESSIONAL FORESTIER
 THOMAS P. CSIFOWIG
 NO. 1757
 STATE OF CALIFORNIA

8/22/97
 (Date)

[Signature]
 (Title)

EXHIBIT K
4



**Sleeper Gulch
Timber Harvesting Plan Map**

E 1/2 of SE 1/4 of SW 1/4 of Sec. 29, T8S, R2W K100M

Scale 300 ft
contour interval = 40 ft

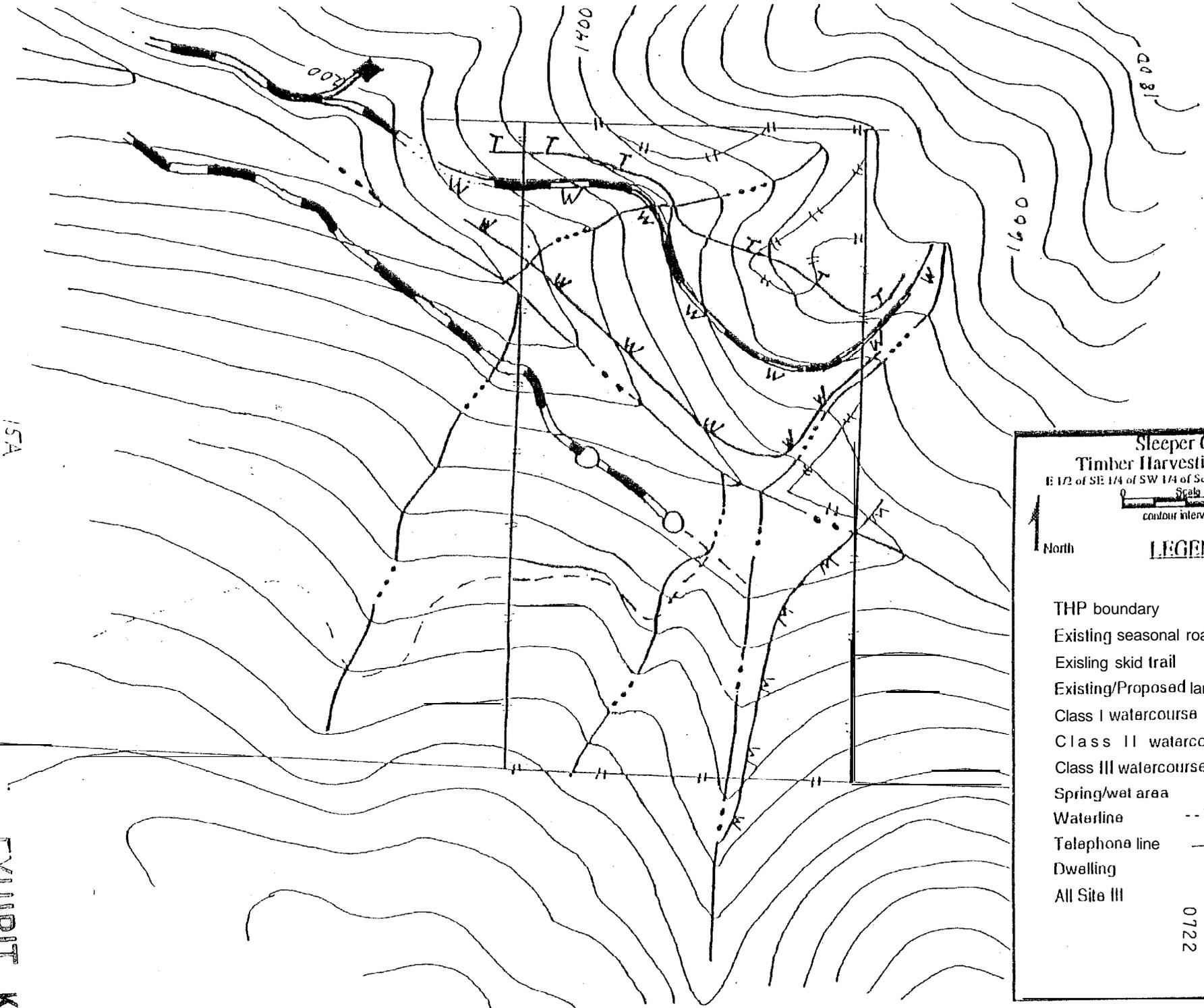
North

LEGEND

THP boundary	
Public use road	—————
Existing seasonal road	- - - - -
Existing skid trail > (paths of on > 50% slopes)
Proposed skid trail
Proposed skid trail portions on > 50% slopes	
Existing/Proposed landings	○/○
Unstable/slide areas	▲ ▼
Class I watercourse	—————
Class II watercourse	- - - - -
Class III watercourse
Spring/wet area	▼
Numbers Indicate Stream Xing. C1, C2, C3	
Numbers Indicate Millgallon Points R1, R2, R3	
Special Treatment Area	
All Site III	0721
All Moderate EHR	

ATTACHMENT
0721

R7 - 70' of road in Class II WLPZ



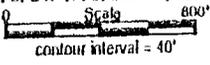
ISA

EXHIBIT K

Revised 7

**Sleeper Gulch
Timber Harvesting Plan Map**

E 1/2 of SE 1/4 of SW 1/4 of Sec. 29, T8S, R2W 1

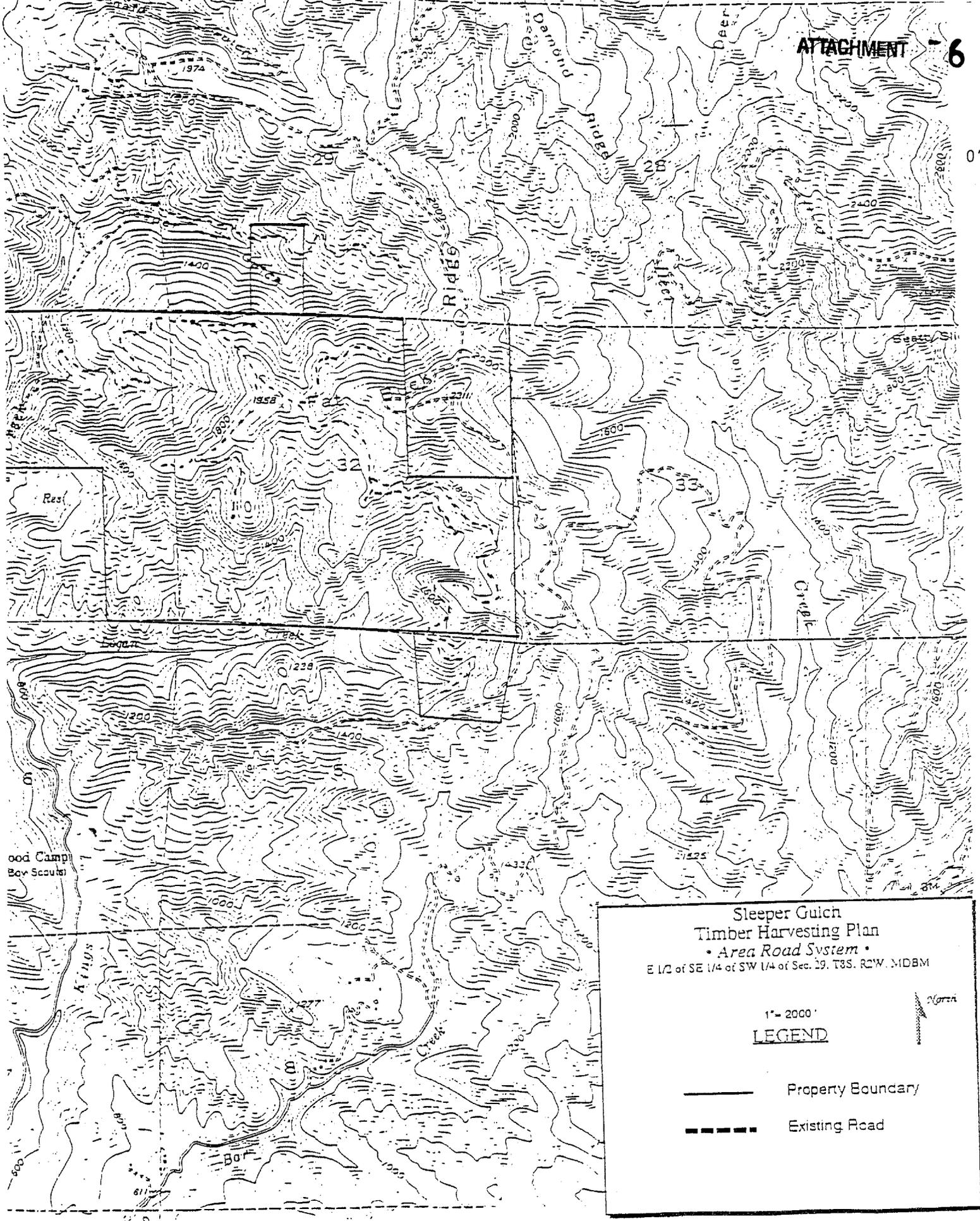


LEGEND

- THP boundary
- Existing seasonal road
- Existing skid trail
- Existing/Proposed landings
- Class I watercourse
- Class II watercourse
- Class III watercourse
- Spring/wet area
- Waterline
- Telephone line
- Dwelling
- All Site III

0722

ATTACHMENT



Sleeper Gulch
 Timber Harvesting Plan
 • Area Road System •
 E 1/2 of SE 1/4 of SW 1/4 of Sec. 29, T3S, R2W, M3BM

1" = 2000'

LEGEND

————— Property Boundary
 - - - - - Existing Road

North ↑

The following is provided as additional information, elaboration, explanation, or justification of information presented elsewhere in this plan:

0724

1. As per 14 CCR 1034 (jj), the following is a general description of the harvest area (more complete descriptions of all resource categories follow the Cumulative Impact Checklist).

The topography of the THP area is about half moderate to steep mostly north facing aspects, and half south facing aspects. Elevation ranges from about 1320 to 1600 feet. Most of the area is underlain by Butano Sandstone, with the Butano fault trace along the south boundary of the property (Brabb, 1970). The soils are Ben Lomond/Felton Complex. This complex is about 35% Ben Lomond sandy loam and 35% Felton sandy loams on slopes varying from moderate to very steep. The Ben Lomond sandy loam soils are characterized as: deep; moderately permeable; with an effective rooting depth of 40 to 60 inches; water availability of 4 to 8.5 inches; runoff is rapid on moderate slopes to very rapid on the steepest slopes; and weathered sandstone at about 46 inches. The Felton sandy loam is deep, well drained, with rooting depth of 40 to 70 inches, weathered rock is at 63 inches. These soils have available water capacity of 4 to 10 inches (USDA 1976).

The harvest area contains Class III watercourses feeding Sleeper Gulch which is a Class II watercourse *that drains into Kings Creek Kings Creek is a Class I watercourse below about 850 feet elevation that supports runs of steelhead. It is tributary to the San Lorenzo River which is listed as a Coho Salmon stream. Observations of stream conditions in Kings Creek showed moderate to poor condition of stream gravels due to impaction caused by human uses of residential development, all year use of dirt and gravel roads within the WLPZ for thousands of feet. MO ponds or backwaters are known within one mile of the THP.

Tributaries such as the Class II Sleeper Gulch on this THP have had major impacts due to past logging, especially that which took place prior to modern forest practices. Major storms and the Butano fault are the usual cause of landslides which bring trees into a stream. In this THP area, trees and debris in the stream channel caused it to aggrade then downcut to the level where blockages still remain. Although dry during summer months during some recent drought years, the Class II watercourse provides domestic water and habitat for amphibians, insects, and other animals of the area. Some areas of sharply incised channel are actively eroding, with most of the eroded material being deposited in slash and debris dams downstream.

The Class III watercourses are "U" shaped with lots of debris in them and little downcutting, but with some areas of sharply incised cutting.

There are about 18 acres of mixed evergreen and coniferous forest on the THP area. The site index for the plan area varies from about 130-150 for redwood (Lindquist and Palley, 1963). Overstory tree canopy on much of the site is a mix of young growth conifers and hardwoods. Species composition varies with a clumpy distribution from nearly full conifer in some of the lowest streamside and draw bottom areas and north aspects to nearly full hardwoods on the higher ground. Canopy closure is nearly complete in most areas. The majority of the conifers are young growth redwoods with a few

Douglas fir. The hardwoods are tanoak and madrone. The larger harvest conifer diameters average from 26 to 30 inches; larger hardwood diameters range from 10 to 16 inches. The oldest components of the stand are approximately 7.5 years old. The stand possesses total basal areas averaging from 150 to 460 square feet per acre of which about 65% is redwood, 5% Douglas-fir, and 30% tanoak and madrone.

0725

The selection silvicultural system will be used as described in i4 CCR 9 13.8 (a). Harvest trees will be selected so as to establish sprout and seedling regeneration, remove defective trees, and increase growth, and maintain a well distributed tree crown cover. Immediately following the completion of timber operations at least 75 square feet of basal area per acre of qualifying leave trees will be left Conifers will be marked for harvest prior to cutting. Leave trees will be thrifty coniferous trees free from significant damage from harvesting operations. We will plant all openings in the higher site areas of all timber types to increase our sustained yield.

This harvest is planned as one in a series of selective harvests which will create a sustained yield forest yielding a volume approximately equal to or less than the stand growth every ten to twenty years. Harvest trees are to be selected to foster the development over time of an all aged stand with trees of all sizes which are free to grow. Average post harvest conifer stocking levels are expected to be generally in excess of the minimum standards ranging from 75 to 90 square feet. Including all species in the post-harvest composition, it is estimated that redwood will be about 70%, Douglas-fir 5%, and tanoak and madrone 25%.

- 2. This plan will result in no significant adverse impacts on the environment (Item 13e of Section II).
- 3. The THP includes one silvicultural rule under § 913.8. It is described in Section II under Item 14 e.

4. § 1032.10 Domestic Water Supplies

The Domestic Water Supply Notice has been mailed and published as per sec. 1032.10 (see attached combined Notice of Intent / Domestic Water Supply Inquiry and proof of publication of same). A couple of responses have been received anda surface domestic waterline is present across the THP area. The user has been contacted and a plan and communications are on-going to coordinate supply needs with timber harvesting.

5. §913.1 I Maximum Sustained Production

§9 13.8(a) is a special harvesting method for the Southern Coast Subdistrict. However, it meets the requirements for Maximum Sustained Production (MSP) as provided for by §9 13.1 l(c)(2) by retaining the following basal area stocking minimums and the seed tree retention standards described in § 913.1(c)(1)(A):

- Retention of at least 8 seed trees per acre - 18" DBH or greater or,
 - Retention of at least 4 seed trees per acre - 24 " DBH or greater
- of full crown, capable of seed production and representative of the best pre-harvest phenotypes for the stand; or a combination of the above.

A complete description of the timber stands may be found in Section IV under the Cumulative Impacts Assessment paragraphs which include the requirements of § 1034. jj.

1. The existing haul road and the ridge in the NE area of the THP will be used for long lining. The tractor itself will not be on a steep slope. The use of these roads and edges of steep terrain is justifiable in order to access timber which otherwise may be inaccessible, thus utilizing otherwise inaccessible timber and hence, maintaining the productivity of the property and also because they can reasonably be expected not to significantly adversely affect timberland productivity, or values relating to soil, water quality, and watershed values.

0726

2. Construction of about 40 feet of skid trail across a portion of slope >65% is necessary to access a significant amount of timber in the north end of the THP. Only this small area of steep slope will have tractor operations and they can reasonably be expected not to significantly adversely affect timberland productivity, or values relating to soil, water quality, and watershed values.

Justification for use of existing Skid Trail in WLPZ

The existing skid trail east of crossing 3 enters the WLPZ of Sleeper Gulch for about 100 feet as it approaches crossing 5 on a tributary to Sleeper Gulch. Construction of a new trail outside the WLPZ would require substantially more disturbance than use of the existing skid trail. With filter capacity reinforced on the skid trail following use it can reasonably be expected not to significantly adversely affect timberland productivity, or values relating to soil, water quality, and watershed values.

Additionally, waterbars will be installed to stop Class IIIs from running down skid trails. These mitigations will reduce current ongoing sediment inputs to watercourses.

Justification for felling trees across a watercourse

There are expected to be an average of no more than one such tree per 300 lineal feet of Class II WLPZ (which has been marked) although we have not mapped each potential tree.

Implementation of this in lieu practice will allow for cutting of trees which cannot be feasibly managed without felling across a watercourse. Some trees may be upon unstable features near watercourses and possess very heavy lean. Because of the "clumpy" nature of second growth redwoods, clumps near watercourses produce situations where the only alternative to felling across the watercourse is to permanently preclude individual trees from management, thus foregoing growth and yield. Controlled felling will better protect the shade and therefore temperature of the watercourse. Some of these trees may fall naturally and create diversions and greater sedimentation than if removed.

The locations, where each event will take place will not be known until the marked trees are evaluated by a professional timber faller. These measures provide for retaining productivity and utilization while minimizing the potential for significant adverse impacts upon the watercourse and its beneficial uses as per §916.4(b) because of the very limited conditions (listed above) under which it may be applied.

3. Erosion Hazard Rating

The overall erosion hazard rating is moderate. It is recognized that there are two small, separate areas (5 acres each) of high and extreme EHR which will be respected. (see EHR Worksheet in Section VI). Soil exposure is expected to be 6 to 13 percent. Factor rating by soil type averages 31. For soil description see § 1034(jj).

Identification of State & County Habitat , Unique, Endangered Species

The Natural Diversity Data Base of 1990, 1992 was consulted and the 1:100,000 1991 maps; the Santa Cruz County Biotic Resources Map. The County General Plan lists entitled *Rare & Endangered Animals of Santa Cruz County* and *Rare & Endangered Plant Species of Santa Cruz County* identifies locally rare plants and animals (included in the Cumulative Impacts Assessment). Other sources referenced: *A Flora of California* by Munz, *Grasses of California* by Beecher Crampton, *A Field Guide to Animals* by Burt and Grosenheider, and *A Field Guide to Animal Tracks*.

0727

Habitat Description:

A general habitat description is found on page 23ff. Sleeper Gulch is a Class II watercourse. It is little more than a trickle for several summer months, but may provide cool water to downstream steelhead and coho salmon. It provides habitat for amphibians, insects, and other animals of the area, and has large quantities of large woody debris in it as well as sediment. There is a portion (about 5 acres) of the THP area which contains steep inner gorge characteristics. Just upstream from the inner gorge area is a slide, and above that substantial sediment accumulations are present. Inner gorge areas has sharply incised channel that is actively eroding, with most of the eroded material being deposited in slash and debris darns downstream. Most of the harvest areas adjacent to the Class II watercourse will be yarded utilizing long-line tractor winching resulting in minimal ground disturbance. Sediment inputs will be reduced by rehabilitating the old road system. The selective harvest retains large trees for LWD recruitment, however, LWD is present in sufficient quantity in the Class IIs, and will be unlikely to be transported the long distance downstream to the Class I where more LWD could be used by anadromous fish. Shade will be preserved by the dense timber and orientation of the stream in order to maintain cool water temperatures for the downstream fishery.

There is no natural chaparral, nor marshes, bogs, or grasslands included within the harvesting area. The coniferous portion of the forest is mostly closed canopied and is two layered with redwood regeneration or hardwoods in the lower layer. The few snags scattered in the forest will be retained for their value to hole-nesting birds.

Specific animals recognized by the County and/or State as rare or endangered which use this type of habitat are:

Marbled murrelets are unlikely due to the lack of trees suitable for nesting. None of the surrounding forest fits habitat descriptions for marbled murrelets and they are not known to be in this watershed.

Golden eagles may fly overhead, no large nests were seen, and they prefer to hunt more open, varied vegetation.

Coho salmon and steelhead are known to be in the San Lorenzo River to which Kings Creek is tributary. The San Lorenzo River has serious water temperature problems in late summer, and a very poor estuary situation for smoltification and over wintering of small fish. Water temperatures are marginal and sediment is a problem in Kings Creek. The THP has the potential to negatively effect steelhead and coho salmon recovery if it were to generate large amounts of sediment which could increase bedload and fill pools or increase solar heating of the stream. Even if small amounts of sediment from the THP could be detrimental if it were to be introduced in March through May while anadromous fish eggs or fry were in downstream gravels. Water withdrawals could reduce

cool water cows in late summer and fall thereby reducing young fish survival. However the THP restrictions on winter operations and other mitigations of the standard rules and the special requirements in the THP to meet the requirements of §4 of the Conservation Measures in the Biological Opinion (CESA 1996) will mitigate and even improve the downstream habitat for anadromous fish. Road rocking by the County, by landowner road users, and on THP's is reducing sediment inputs. All of the rules and practices concerning sediment prevention, partial cutting, protecting shade canopy and covering bare areas in stream protection zones are very important to continue to protect and encourage anadromous fish in Kings Creek. In particular, §4.2.1 is addressed by Item 27a & f. §4.2.2 is not applicable. 4.2.3 is addressed by Item 18. . §4.2.4 is addressed by Item 18.E. §4.2.5 is addressed in Item 26. §4.2.6 is addressed by Items 26 & 27. LWD is present in some quantity in Sleeper Gulch due to windfall and landslides. It is retaining sediment deposits. It is not necessary to add more by design at this time. §4.2.7 is addressed by Item 38. 5.4.3. Water temperature levels in the San Lorenzo Rive: and/or Kings Creek cannot be attributed to canopy levels along Sleeper Gulch. The orientation of the watercourse is such that the standard WLPZ protections will provide more than 75% shading over the Class II. §4.3.1 will not be used. §4.4.1 is met by Item 18.I. §4.4.2 has been done. §4.4.3 is specified in Item 26. §4.4.4 is not applicable. §4.5 is not applicable. § 4.6 will be met through RPF consultation with DF & G prior to water withdrawals from Kings Creek for road watering in late summer & fall.

0728

Redlegged frogs are very unlikely in Sleeper Gulch. It is very unlikely breeding habitat for them. No ponds or riparian vegetation are known in the vicinity of the THP. Displaced juvenile frogs could be traveling along Kings Creek away from pond breeding habitat, but are unlikely to move above the waterfalls due to very steep surrounding slopes. and lack of upstream habitat. The Class II tributary has little sun light or riparian vegetation so it does not provide habitat for redlegged frogs. If wandering redlegged frogs came along or into Sleeper Gulch they would be protected by being mostly restricted the the immediate vicinity of the stream itself due to the steep slopes within the WLPZ, and their cover habitat would be protected by the WLPZ protections (Item 38) and improvements (per USFWS letter re Plan B THPs) (Rev. 7/28 97). The probability of killing a redlegged frog is extremely small and will not threaten the continued existance of the frog.

No me or endangered plants or animals were noted in the THP area. however, it should be assumed that all the usual species of the redwood and mixed evergreen forest are present. A very good list is found in the EIR for Sam McDonald County Park in San Mateo County. The habitat is appropriate for several hawks, owls, and woodpeckers. Piliated wood peckers could be present but were not seen. Sign of feral pigs was not observed. No trees will be cut if raptor nests are noted in them. The annual rye grass used to seed areas of exposed soils to prevent erosion has been observed to be a non-invasive species, giving way to the native vegetation with in few years as the forest shade in time recaptures the sites with native species. Other potential effects on wildlife are noted in the Cumulative Effects analysis, and "General Effects . . ." literature review.

All of the regulations concerning prevention of erosion, landslides. and other water protection measures protect the fishery. The cumulative effects analysis indicates there would be no significant impacts or threats to the fishery from timber harvesting. It is stated in the Biological Opinion of California Department of Fish & Game that timber harvest practice; are not threatening to the continued existence to coho salmon south of San Fransisco Bay when agreed upon conservation measures are incorporated into a THP (CESA 1996).

Alternatives Considered

0729

The land owner has multiple objectives for land ownership. One objective is to grow and harvest the maximum sustained yield of high quality timber products following the objectives of the Forest Practices Act. A second related purpose is to supply timber over the long term for sawmills he owns. He also wishes to enjoy his timberlands with his family for their scenic, recreational, and wildlife values, and to develop such compatible uses as his interest and needs require. He expects these lands to be a profitable investment for all of these purposes.

1. The THP is the selected alternative best meeting the owners objectives.
2. The alternative of no project has been considered but not selected. The land is suitable for growing and harvesting timber which will decrease the high energy costs from use of alternative building materials, and reduce the need to import out-of-state timber for use in northern California. In addition some of the erosion mitigation which require heavy equipment could not be installed so that some preventable sedimentation to Sleeper Gulch would occur.
3. The alternative of other land uses was considered, but not selected. Some nearby properties are being developed for residential use, however we do not consider this use in this remote area to be appropriate, and would only attempt such a use if no other use could be made of the property. Use as parkland could be considered sometime in the future, but it has little significant park value, and would only be improved by harvesting. Wildlife use was considered, but is not a good investment, does not meet other ownership objectives, and will be enhanced in any case by harvesting.
4. Different logging systems (skyline & helicopter) were considered. Some of the property may be harvested using skyline during harvest of the property to the south which is in the same ownership. The remainder of the property would be too expensive to harvest with skyline or helicopter, and the erosion mitigations could not be carried out. It can reasonably be expected that no significant impacts will occur from tractor and skidder yarding. No new road construction is required.
5. Harvesting at a different time was considered, however the acres being cut in the watershed at this time does not indicate cumulative impacts. The watershed being harvested at well below its non-declining sustained yield rate. Growth increases from thinning and improvement of stocking will be greatest with the earliest possible harvest. Development of sustained yield with greater growth and better quality timber will occur sooner if the project is not delayed. In addition harvesting on adjacent lands coordinates road usage in a way which will minimize impacts and allow for the best combination of mitigations and repairs to the road. This harvest does not make a logical logging unit with the larger adjoining parcel with the exception of the area mentioned above which may be skylined at a later date.

CUMULATIVE IMPACT ASSESSMENT OF THE PROPOSED PROJECT

0730

The potential of other activities in the resource assessment areas of this harvest are discussed below in terms of their potential to combine with the effects of this harvest. The potential for such combination to result in significant adverse cumulative environmental effects is summarized below in tabular form as a *Cumulative Impacts Checklist* (as per 14 CCR 912.9)

1. Past, present and reasonably foreseeable future human activities have or will affect all resources within the resource assessment areas. Such projects include homes, driveways, roads, farming, and timber harvesting. Most of these activities are now regulated. The County governs the permit processes and erosion control ordinance to control impacts from residential use and development. The County representative was not aware of any new development projects in the vicinity of this project. Timber harvest plan areas and dates are included in this analysis. Although future timber harvests are likely on all TPZ lands in the assessment area, the timing of future harvests is unknown at this time. Sustained yield harvest rates have been briefly analysed.

2. There are continuing significant adverse impacts that may add to the impacts of the proposed harvest:

Most human activity, such as residential, road, and agricultural uses (including timber harvesting) will continue to have an effect on all the resources. The increasing human population and its demands affect all resources either directly or indirectly. Continued substitution of alternative building products for wood increases energy demands and mining impacts. Chemical pollutants can enter waterways from septic systems, backyard pesticide and petroleum use, and roads. The increasing human population reduces the inventory of productive soils, displaces and disrupts wildlife, reduces wildland recreational opportunities, and disrupts visual resources. Accelerated erosion can occur from roads, home sites, and agricultural land. Some of these local development activities are regulated by the County or State with regulations designed to reduce potential environmental impacts. The State Forest Practices Rules and THP review process, particularly in the Santa Cruz mountains, minimize the impacts from timber harvesting.

3. The proposed harvest in combination with past, present, and reasonably foreseeable probable future projects identified above will or won't, as indicated below, have a reasonable potential to cause or add to significant cumulative impacts in any of the following resources:

Resource	Column A Yes. after mitigation	Column B No. after mitigation effects	Column c No reasonably potential significant impact
Watershed		√	
soil productivity		√	I
biological		√	
recreation		I	√
visual		√	
traffic		√	
other		√	I

4. Mitigations described in items 14, 16, 18, 21, 23, 25, 26, 27c & f. together with those mandated by the rules, particularly those with regard to the selection silvicultural system. will substantially reduce or avoid reasonably potential significant cumulative impacts to the watershed resource from surface erosion.

0731

Mitigations described in items 14, 16.f, 18, 21, 23, 25, 26, and 27 f. together with those mandated by the rules will substantially reduce or avoid reasonably potential significant cumulative impacts to soil productivity and to the water resources resulting from sedimentation. The tractor trail and landing layout are the minimum necessary for this harvest. No road construction is proposed. Tractor trails are committed for use in future harvests. No additional growing space will be lost.

Mitigations embodied in the selection silvicultural method, will substantially reduce or avoid reasonably potential significant cumulative impacts to the biological, recreation, and visual resources.

Traffic mitigations include no weekend or holiday hauling and routing of trucks on the available main arteries to the nearest State Hiway.

5) *Resource Assessment Areas*

The assessment areas for the cumulative impacts are the areas as described herein, and/or as shown on the accompanying Resource Assessment Area map. The harvest area lies within the timbered portion of the watershed of Kings Creek. The resource assessment area for some resources will be different from that of the watershed assessment area. The assessment areas were selected to include the areas that could be reasonably expected to be impacted by this project.

The water resources assessment area includes the watershed below the project downstream to the San Lorenzo River. At this point the Kings Creek impacts are clearly more impacted by other uses than it could be by timber harvesting in the Kings Creek watershed. (Also see General Effects of Local Timber Harvesting, pp 42 ff).

The wildlife resource area includes about 1/2 mile around the THP area because that will include the ranges of most animals that could be affected by the harvest. Additionally, the anadromous fishery assessment area extends to the mouth of the San Lorenzo River as it pertains to assessment of the impacts to the habitat and life cycle of coho salmon and steelhead.

The soil productivity assessment area is the area of the timber harvest plan. since only those soils will be impacted by harvesting. However, the cumulative effects of harvesting on all watershed soils is considered in a general analysis of timber harvesting in the Santa Cruz mountains.

The recreational assessment area includes the harvest area and lands within 300 feet of the harvest area. as well as roads along the haul route that could be affected by dust, noise. and traffic. This area was chosen because it describes the reasonable limits of the harvest activity impacts on recreationists.

The visual impact area includes areas where one may be able to see into the harvesting area such as viewed from public roads and neighboring parcels. This area was chosen because it includes the

The traffic assessment area includes the roads accessing the area and along the haul route to Highway 9. This area was chosen because it is the only traffic area where additional truck traffic may be locally regulated, and this only with the cooperation of Santa Cruz County Public Works. It is also the only area where logging truck traffic could constitute a significant change in the traffic impacts. The fire hazard assessment area is the same as the Watershed Assessment Area because it encompasses the fuels, risks, ridges, firebreaks and access that would be involved in the event of a major fire.

0732

i) Information sources are shown in Section VII of the following analysis.

The following sections provide further discussions on the various topics related to the cumulative impacts assessment.

CUMULATIVE IMPACTS ASSESSMENT

A. *The Watershed Resource Assessment Area*

The watershed resource assessment area of about 5,100 acres of Kings Creek, including this project area (See Assessment Area Map 1).

Rationale for choice of area: The area includes all areas downslope from the THP area to the point where other uses impacts become dominant. The assessment area is large enough to analyse the cumulative effects of this timber harvesting on water resources.

General Description of the Kings Creek Watershed

The watershed consists primarily of three types of vegetation: 1] Redwood Forest, Mixed Evergreen Forest (Munz, 1959), and Chaparral/knobcone pine mixtures. Redwood forest and mixed evergreen forest occupy the more mesic sites and have similar hydrological characteristics. Both provide almost continuous canopy cover and have a deep protective humus layer which provides excellent infiltration for heavy rainfalls, and rarely have any surface flow during heavy storms. The brush, knobcone pine scrub, and orchards, camps, and grass types have a much lesser organic layer, and along with roads create a quicker runoff response, even with small storms of 4 inches or less. Most of the forest soils are moderate to deep sandy loams and loams with rapid infiltration rates aided by their humus layer, and store four to ten inches of water. They may be quite erodible when bared, and therefore these factors are analysed in the Erosion Hazard Rating for the THP.

The Kings Creek watershed is accessed by Kings Creek Road which is a paved County Road, barely two lanes to the Boy Scout Camp and one lane with turnouts to the junction with the driveway to the Institute for Heart Math (IHM). It is a County maintained dirt and g-ravel road for about 1.5 miles, and then becomes a privately maintained public right-of-way to some point when it becomes private driveways, all privately maintained. There are a significant number of roads to subdivisions and single residences within the lower watershed. The upper timbered portions of the watershed are served by numerous dirt, logging roads, but is not fully roaded. Altered drainage patterns from road surfaces tend to exacerbate storm flows by reducing the time of rainfall accumulation, however dirt roads are usually more frequently drained and, unless damaged, change the drainage patterns less. Most Of Kings Creek Road is within what would be considered

a stream protection zone, and therefore transmits any sediments directly into the stream. The upper watershed has a significant mileage of private single lane, unsurfaced driveways and old logging roads. Some of these are poorly designed and maintained and are sources of sediment. Runoff from all roads add pollutants to surface waters. The Kings Creek Road has been used regularly during the last two decades for log hauling.

ATTACHMENT 1

6

0733

The watershed condition is quite variable. Most of the timbered portion was clearcut 50 to 90 years ago. Most of the watershed is underlain with Vaqueros Sandstone including some Rices Mudstone, however the THP area is within a strip of Butano Sandstone. A branch of the Butano Fault lies across the upper reaches of the watershed. Slopes are moderate to very steep. Elevation ranges from about 500 to 3200 feet. Moderate slopes are present in some areas and in some canyons, but there are many steep inner gorge configurations throughout the watershed. The inner gorges of the watercourses are frequently subject to landsliding during periods of intense storms, and also following significant earthquakes. The landslides that occur during intense storms bring trees and stumps with them. Large (>36 inch diameter) trees are the primary cause of dams and diversions which result in more slides (Singer & Swanson, 1984), however they also provide important habitat for anadromous fish including coho salmon (Coho Salmon Habitat Impacts, 11194).

Kings Creek is a Class I watercourse. While the County Preliminary Landslide Map indicates quite a few slides, it takes little field examination to find many slides along tributaries of Kings Creek. Although Kings Creek was seriously degraded by the 1982 floods and is regularly degraded by the road location next to the stream, it is recovering and supports steelhead. In recent years the increased rocking of the dirt portions of Kings Creek Road, especially by the County, landowner maintenance, and timber harvests has decreased sedimentation of Kings Creek sufficiently that spawning gravels have been introduced to a portion of the downstream Kings Creek [Hope, 3/11/97]. It is tributary to the San Lorenzo River which supports coho salmon, and if Kings Creek does not, it must be considered a recovery stream requiring the same protections.

The Class II watercourses that provide habitat for amphibians, insects, and other animals of the area are commonly steep, inner gorge type streams in their immediate vicinity. Fifty to 100 percent slopes are not uncommon adjacent to them. Such watercourses vary from spring fed streams that run all year to those that are dry from some middle elevation to the upper reaches where occasional pools begin to appear. Channels vary from scoured bedrock, to debris dams impounding large amounts of sediment, to areas of impacted cobble between the other types of stream bottom. Some Class IIs are mostly stabilized, filled with debris from past logging as well as with the normal broken tops, limbs, branches and needles of the redwood forest overstory. Some have areas of sharply incised channel which are actively eroding, with, most of the eroded material being deposited in slash and debris dams downstream. Some like like Sleeper Gulch have been heavily impacted from old logging, as shown by the corduroy log skid road about 4 feet beneath sediment deposits in the THP area.

Class III watercourses are also quite variable from mostly "U" shaped with lots of debris in them and little downcutting, to areas of sharply incised cutting, some exacerbated by past log skidding.

EXHIBIT K

6 4

3. Beneficial Uses

The beneficial uses of water include the city of Santa Cruz from the San Lorenzo River, (SLV Water District has no water pickup in Kings Creek) and other domestic water supply, fish and wildlife habitat, recreational enjoyment, and agricultural uses. The watershed has many roads, residential, and recreational/educational uses (see sections following). All of these uses and activities potentially impact the watershed in some way, from sewage, fuel spills, road maintenance, logging, erosion from horses and mountain bikes, to fires and human activities that utilize water. All threaten those beneficial uses. Despite these threats, the road location next to the stream, illegal grading, and earthquake and storm related landslides and drouth probably are the greatest threats to the beneficial uses of water in Kings Creek.

ATTACHMENT

6

0734

2. Current Stream Channel Conditions

Kings Creek is an Order 4 stream downstream from the project area that will receive runoff from areas disturbed by this project. The following list summarizes the condition of the Order 3 or larger stream channels with respect to the listed characteristic using a *High (H)*, *Medium (M)*, or *Low (L)* rating:

Gravel Embeddedness	M-H
Pool Filling	M-H
Aggrading	M-H
Bank Cutting	L-H
Down cutting	LM
Scouring	L-H
Debris Clearing	L-M
Debris Jamming	L-M
Canopy reduction	L
Recent Flooding	H (1982, '83, '86, '96)

There are current stream channel conditions outside the project area, but within the watershed assessment area that are contributing to a reduction in the beneficial uses of water. The following items briefly describe the conditions, locations, and affected beneficial uses:

- .. The assessment contains roads and residential uses that are contributing sediment to the stream. This primarily affects the fishery.
- . Numerous landslides, relatively minor stream bankcutting, and aggradation occur at various points up and down stream from the project area.

here are known, current stream channel conditions outside the assessment area that are contributing to a reduction in the beneficial uses of water and they are briefly described as follows:

- a. Sewage overflows have been widely reported, sedimentation is substantial from roads, streets and highways and landslides within the San Lorenzo River basin.
- b. The lower San Lorenzo River is lethally warm with insufficient deep pools, and in a cement channel with little or no cover, and which provides no estuary for smoltification, and very poor habitat for over wintering coho salmon and steelhead.

D. Past Projects

Logging Use & History

The original clearcutting and burning in the watershed was extremely destructive with continuing effects in some places, especially in stream bedloads. Later logging through about 1973 was also very destructive of soils and water, and has continuing impacts. The analysis below deals with logging since modern regulations have been in place.

0735

About 21% of the Kings Creek watershed has been thinned during the last 10 years. This is an average rate of 107 acres per year. Of the 239 acres of timber harvest plans done in the last three years (including this one), our information is that 30 acres have been harvested and will have completed one winter of healing before this project can be started. If harvesting continues as in the past, an average of 107 acres per year will continue to be harvested in the Kings Creek watershed, or about 2 percent of the watershed per year. If all of the timberland [estimated at 83% of the watershed area] were being managed for an even, sustained timber production, the average acreage harvestable is estimated to be 423 acres per year (4233 estimated timbered acres divided by a 10 year cutting cycle).

In the absence of long-term controlled studies, the next best estimate of potential impacts can be obtained by comparing these watersheds with one such as Caspar Creek that has been carefully and scientifically studied. However, insufficient data is available in these two watersheds to do this. In another Santa Cruz mountain watershed "order of magnitude" estimates have been made including all mapped roads and all known logging roads. Assuming average 30 foot widths of impact, these roads approximate 2.9% of the compared watershed. This may mean that the watershed had a smaller percentage of area in roads than the 5% in the Caspar Creek study watersheds. Even if the road estimate was increased by 50% to include roads not known but probably present, the total percent of the Santa Cruz mountain watershed in roads was 4.34%, which is less than at Caspar Creek. This is possible because of 1) narrower roads (McCashion and Rice 1983), 2) the amount of watershed in steep, inaccessible headwaters, and 3) the steep inner gorge of the particular watershed being compared. It is likely that the Kings Creek watershed would also compare favorably.

•The following harvest plans have been implemented within the Kings Creek watershed:

<u>map # (all SCR)</u>	<u>acres</u>	<u>Yarding method</u>	<u>Status</u>
1-87-666	25	Tractor	Complete
1-88-403	110	Tractor	Complete
1-88-510	215	Tractor/Cable	Complete
1-89-82	175	Tractor/Cable	Complete
1-89-512	157	Tractor	Complete
1-89-553	7	Tractor	Complete
1-90-753	10	Tractor	Complete
L-91-222	115	Tractor/Cable	Complete
i-93-241	22	Tractor	Inactive
1-93-345	55	Tractor/Cable	Active
1-94-173	30	Tractor	Complete
1-94-263	55	Tractor/Cable	Active
1-96-223	75	Tractor	Active
Total	1057		

past projects (excluding natural events independent of projects) within the assessment area include timber harvesting, agricultural use and residential development. Knowledge of the watershed conditions on and off the project area but within the assessment area indicate the following impacts from projects:

0736

Are There Effects from Past Projects within the Assessment Area?			
		yes	no
a.	Increased sediment inputs that embedded gravels, filled pools, or caused channel aggradation within any portion of the stream system?	√	
b.	Increased channel down cutting or bank erosion as a result of increased flows, sediment transport, or other channel modifications?	√	
c.	Increased water temperatures resulting from canopy removal along stream channels?		√
d.	Increased inputs of unstable organic debris to a stream or lake?	√	
e.	Removal of large organic debris leading to loss of pool habitat?		√
f.	Chemical inputs to a stream or lake?		√

E. *Probable On-Site Affects*

Based on current conditions and knowledge of the impacts of similar past projects, what is the probability of this project to cause the following affects using a rating of High. Medium. and Low?

0737

Probability of the Project to Cause the Following:		rating
1.	channel or bank erosion	low
2.	streamside or inner gorge mass wasting that could directly enter a stream channel	low
3.	Debris flows or torrents that could move directly into the stream system from sideslopes, swales, small channels, roads, landings, or skid trails	low
4.	Debris flows or torrents caused by debris jams	low
5.	Sideslope mass wasting that directs surface runoff into gullies, swales, or small channels connected to the stream system	low
6.	Sheet, rill, or gully erosion that could be discharged into the stream system from roads, landings, or skid trails (including all disturbed areas from the top of the cut to the bottom of the fill)	low
7.	Sheet, rill or gully erosion from harvesting or site preparation that could enter the stream system	low
8.	Openings created by the project along streams that could result in substantially increased stream temperatures	low
9.	Increased amounts of small organic debris in streams or lakes as a result of the project	low
10.	Movement of roadway chemicals, machinery fuels, pesticides, nutrients released by burning or other chemicals into streams or lakes as a result of the project	low
11.	Increased peak flows as a result of vegetation removal, or more efficient runoff muting created by the project	low
12.	Inputs of large organic debris in streams or lakes as a result of this project	low
13.	Extraction of large organic debris from streams or lakes as a result of this project	low
14.	Loss of future organic debris as a result of streamside timber harvesting	low

All of these factors have been rated LOW which indicates that the project impacts are non-existent or so unlikely that they cannot reasonably be expected to significantly contribute to downstream cumulative effects and the CI Checklist is so indicated.

F. *Future Projects*

Future projects within the assessment area are likely to include timber harvests, continued agricultural practice, and some residential developments. The County position is that enforcement of its erosion control ordinance will prevent impacts from residential developments (Hope, 1992). Local experience indicates harvesting effects of selective logging under Santa Cruz mountain Ruies is greatest the first year following logging, and is reduced to insignificance within three years. There are no known effects continuing from the past timber harvesting projects listed above.

I. CUMULATIVE SOIL PRODUCTIVITY IMPACTS ASSESSMENT

Cumulative soil productivity impacts occur when combined impacts of a sequence of management activities produce a significant reduction in soil productivity. Those impacts may occur as part of separate activities on the same project- as residual effects of past projects. and as the likely impacts of future projects.

6738

1. Soil Productivity Impacts Assessment Area

The soil productivity assessment area is the THP area.

2. Soil Productivity Resources Assessment

Site factors to be assessed for cumulative soil productivity impacts include organic matter loss, surface soil loss, soil compaction and growing space loss. The potential impact of successive management activities must be assessed for each of those factors individually and in combination, and the overall impact classed as significant when:

The area disturbed by proposed timber operations will exceed that required by the silvicultural and harvest system designated for use under the proposed THP. This excess would include unnecessary duplication of existing skid trails, roads, landings, yarding disturbance, or mechanical site preparation which results in degradation of the environment; that is, it is a significant impact if there is more disturbance than required to log a THP, and that excess degrades the environment on- or off-site.

- 1. The amount of organic matter loss and soil displacement with use of the proposed silvicultural and harvesting systems cannot be repeated indefinitely without degradation of site productivity, or the off-site environment
- 2. The amount of compaction and puddling with use of the proposed silvicultural and harvesting systems under the soil moisture conditions expected at the time of operations will result in a measurable decrease in site productivity lasting many years, and if repeated will set a downward trend in productivity; or will result in significant negative off-site effects such as to accelerated runoff.
- 3. The combined loss of soil productivity from loss of growing space, organic matter loss, soil displacement and soil compaction from proposed operations will result in a long-term decline in productivity; or degradation of off-site environments.

3. Impacts Evaluation

Soil Disturbance from Logging

The amount of soil disturbance from logging under the Santa Cruz mountain Rules can be estimated for the Kings Creek watershed. Assuming soil disturbance of 11% on 968 estimated tractor yarding acres of logging and 6% on 110 estimated cable yarding areas in the Kings Creek watershed during the last 10 years (including all known 1997 THPs), about 2.2% of the watershed will be disturbed over 10 years by logging. Logging impacts are usually healed within a three year period in this area. About 239 acres is in active or recently closed logging (including 1997 THE?). If all of it is tractor logged with 11% disturbance (some is being cabled), then 26 acres out of 5100 or 0.5% of the watershed may be in a disturbed condition as a result of logging with less than three

years of healing. If the sustained yield harvest rate takes place with an average cut of 423 acres per year, we can expect that 0.9% of the watershed would be disturbed annually, with 2.7% of the watershed having less than three years of healing. Perhaps 1/10th of the disturbance would be considered severely compacted. Compaction could affect runoff, which is discussed in the "General Effects . . ." section below.

3739

Soil productivity impacts Of this propose, THP and other harvesting have been analysed using the best available research in the following evaluation. This research and on-site analysis of the THP area provides the basis for the judgments below. The proposed project, as presented, alone or in combination with impacts of past and future projects has the following reasonable potential to cause or add to significant cumulative soil productivity impacts as a result of:

Soil Productivity Impacts Evaluation			
	Yes, after mitigation	No, after mitigation	No reasonable potential significant impacts
organic matter loss			√
surface soil loss		√	
soil compaction			√
growing space loss			√
combination of above		√	

III. CUMULATIVE BIOLOGICAL IMPACTS ASSESSMENT

Habitat Description:

The assessment area extends from creek level to the ridgetop and includes 1/2 mile around the THP. The assessment area for anadromous fish includes the watershed assessment area, and considers the waters to the mouth of the San Lorenzo River. The timber stands vary from dense redwood to pure hardwood stands with brush, hardwoods and cliffs outside the THP to the north and east. Most of the assessment area is redwood and mixed evergreen forest with basal areas of 300 to 400 square feet or more. The mixed evergreen stands have scattered redwood and a few Douglas-fir trees with basal area of conifers ranging from about 0 to 250 square feet. Coniferous regeneration of seedlings, saplings, and poles are scattered within both the redwood forest and mixed evergreen stands which promises to produce a much denser coniferous component in the future. (See also CCR 1034jj in section II above).

Sleeper Gulch is a Class II watercourse supplying Kings Creek with cool flows of water most of the year and are probably significant to steelhead and coho salmon.

No rare or endangered plants or animals are known to be or were noted in the Biological Assessment Area with the exception of steelhead in Kings Creek and Coho Salmon in the San Lorenzo River.

Sources of information on wildlife and tie anadromous fishery are described in Section III under

Rare or Endangered Animals:

Specific animals which are recognized as rare or endangered which use the assessment area are: Peregrine Falcon may hunt such areas, but typical nesting areas are unknown within the assessment area.

0740

Marbled murrelets are unlikely due to the lack of trees suitable for nesting. None of the surrounding forest fits habitat descriptions for murrelet, and they are not known to be in this watershed.

Golden eagles may fly overhead, no large nests were seen.

Scotted owls are not known to exist in the area.

Unlogged frog habitat may be in the lower Kings Creek watershed, but breeding habitat is not known to be present in the 1/2 mile radius Biological Assessment Area.

It should be assumed that all the usual species of the redwood and mixed evergreen forest are present.

A very good List is found in the EIR for Sam McDonald County Park in San Mateo County. The habitat is appropriate for several hawks, owls, and woodpeckers. Harvesting will improve deer habitat so cougars will be favored. Sign of feral pigs was not observed.

Steelhead are present in Kings Creek and Coho salmon are in the San Lorenzo River. The following table is a subjective ranking based on experience in the watershed, of the effects of watershed products on the life cycle stages of anadromous fish. As indicated, cumulative impacts are unrelated to anticipated effects from this THP.

Watershed Products vs Anadromous Fish Life Cycle

Continuing Post Negative Impacts (Rated 1-10)

Channel Entrance	Adult Migration	Spawning & Incubation	Rearing	Juvenile Movement	Over Wintering	Smoltification	Lagoon/ Estuary
Water	2	3	3	3	5	9	9
Sediment	2	8	4	4	4	8	8
LWD	4	5	6	5	7	8	9
Heat	3	1	6	5	1	9	9
Nutrients	4	3	4	4	2	5	5

Potential Project Negative Effects (Hazard=Mitigation=Risk on 0-10 ranking)

Channel Entrance	Adult Migration		Spawning & Incubation		Rearing		Juvenile Movement		Over Wintering		Smoltification		Lagoon/ Estuary	
	Hazard	Risk	Hazard	Risk	Hazard	Risk	Hazard	Risk	Hazard	Risk	Hazard	Risk	Hazard	Risk
Water	<1	0	0	0	0	0	0	0	0	0	0	0	0	0
Sediment	<1	0	<1	0	3	<1	1	<1	1	<1	0	0	0	0
LWD	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nutrients	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CUMULATIVE EFFECTS (Post - THP rated 0-10)

Channel Entrance	Adult Migration	Spawning & Incubation	Rearing	Juvenile Movement	Over Wintering	Smoltification	Lagoon/ Estuary
Water	2	3	3	3	5	9	9
Sediment	2	8	4	4	4	8	8
LWD	4	5	6	5	7	8	9
Heat	3	1	6	5	1	9	9
Nutrients	4	3	4	4	2	5	5

The ranking below is subjective judgment based on experience with local logging and mitigation applications. The numbers are not intended to be a quantitative assessment or measurement but an indicative ranking of potentiality and mitigation sufficiency. [Ranking of impact risk is on 0-100 scale. Plus "+" means cumulative. Assumes CESA §2090 Agreement] 074 1

Activity	Sediment	LWD	Heat	Direct Risk	Indirect Risk	Uncertainty
New road construction on slopes <65%	0	0	0	0	0	0
New road construction on slopes 65%+	0	0	0	0	0	0
New landing constr on slopes <60%	0	0	0	0	0	0
New landing constr on slopes >60%	0	0	0	0	0	0
Ground skid on slopes <50% some <60%	10+	0	0	1	9	1/20=.05+
New skid trails on slopes 50-65%	0					
New skid trails on slopes >65%	2+	0	0	.5	1.5	1/50=.02+
Existing road within WLPZ	5+	0	0	1	4	1/20=.05+
New road within WLPZ	0					
Ground skidding within WLPZ	8+	0	0	3	5	1/20=.05+
Skid trail construction within WLPZ	0	0	0	0	0	0
Cable skidding within WLPZ	0					
Felling & bucking within WLPZ	1+	3+	2+	2	1	1/9=.1+1/70=.01
Class III watercourse crossings: 1-4	10+	0	0	1	9	1/20=.05
Class III watercourse crossings: 5-10	0					
Class I or II temporary culvert crossings	10+	0	0	7	8	.1
Class I or II new permanent culvert crossings	0					
Class I or II new bridge crossings	0					
Winter ops until dry over \$914,7(c)	5+	0	0	0	5	1/20=.05
Winter operations (skyline & rocked roads)	0					
Road and erosion control maint. program	10	0	0	1	9	1/20=.05

(risk x uncertainty = indication of probability of impacts. >10% = need to consider more mitigations)

Conclusion: Sum of risk x uncertainty = 3.45 .03 .2 Mitigations are considered adequate.

Reasons concerning uncertainty rating (see details in THP)

- 1 & 2 Road construction: No new road construction
- 3 & 4 Landing construction: No new landings
- 5. Ground skidding: Ground skidding exposes 9% to 13% of the soil. The greatest risk would be a biowout 1982 type storm the first winter following logging (20 yr freq. storm), and that 1 or more waterbars would fail. even after early storm maintenance.
- 7. New skid trails: Little skid trail constr will be done, one short steep pitch is well away from creek so would require 50 year freq storm for effect erosion control treatments have history of success.
- 3. Existing road: About 7.5 ft in WLPZ will be rocked already partially on bedrock.
- 13. Felling & bucking in WLPZ: Skidding is away from WLPZ. experience indicates little risk of sediment. canopy protected by light mark with RPF supervision, failers are supervised. LWD risk is long term (over 70 years) if a felling error is made.
- 10. Skidding in WLPZ: Only long lining, and at established crossings. Primary risk is a 20 year frequency storm the first year.
- 14 & 16 Watercourse crossings: Crossings at flat areas with easy access, simple erosion control techniques.
- 19. Winter operations: Risk is in the probability of a surprise storm catching operation unprepared or a major storm causing shutdown. THP requires preparation of erosion control prior to Winter and prior to predicted storm.
- 21. Road and erosion mtc: There is always minor risk assoc with roads; main risk is from a major storm & unforeseen blowout.

EXHIBIT K
6 4

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Rare or Rare & Endangered Plant Species of Santa Cruz County			
<i>scientific name</i>	<i>common name</i>	<i>rare</i>	<i>rare & endangered</i>
<i>Arabis blepharophylla</i>	coast rock cress	✓	
<i>Arctostaphylos glutinosa</i>	Schrebler's manzanita		✓
<i>Arctostaphylos pajaroensis</i>	Pajaro manzanita	✓	
<i>Arctostaphylos pumilar</i>	sandmat manzanita		✓
<i>Arctostaphylos silvicola</i>	silver-leaved manzanita		✓
<i>Castilleja latifolia</i>	Monterey paintbrush	✓	
<i>Ceanothus lewisii</i>	coyote ceanothus		✓
<i>Ceanothus rigidus</i>	Monterey ceanothus	✓	
<i>Chorizanthe robusta</i>	robust spine flower	✓	
<i>Cirsium campyton</i>	Mount Hamilton thistle		✓
<i>Clarkia rubicunda</i>	ruddy clarkia	✓	
<i>Collinsia franciscana</i>	San Francisco collinsia	✓	
<i>Cordylanthus rigidus</i> , ssp. <i>littoralis</i>	seaside bird's beak		✓
<i>Corethrogyne leucophylla</i>	branching beach aster	✓	
<i>Cupressus abramsiana</i>	Santa Cruz cypress		✓
<i>Cypripedium fasciculatum</i>	clustered lady's slipper		✓
<i>Erigeron petrophilus</i>	rock daisy	✓	
<i>Erysimum amplexicaule</i>	coast wallflower	✓	
<i>Erysimum franciscanum</i> , var. <i>franciscanum</i>	San Francisco wallflower	✓	
<i>Erysimum teretifolium</i>	Santa Cruz wallflower		✓
<i>Holocarpha maeradia</i>	Santa Cruz tarplant		✓
<i>Hystrix californica</i>	California bottlebrush		✓
<i>Lilium rubescens</i>	redwood lily	✓	
<i>Malacothamus arcuatus</i>	arcuate malacothamus	✓	
<i>Microseris decipiens</i>	Santa Cruz microsensis		✓
<i>Mimulus ratanii</i> , ssp. <i>decurtatus</i>	Santa Cruz Co monkey flower	✓	
<i>Monardella undulata</i> , var. <i>undulata</i>	curly-leaved monardella	✓	
<i>Pedicularis dudleyi</i>	Dudley's lousewort		✓
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta		✓
<i>Pendendia gairdneri</i>	Gairdner's yampah		✓
<i>Polystichum dudleyi</i>	Dudley's swordfern		✓
<i>Ranunculus lobbii</i>	Lobb's water buttercup	✓	
<i>Rhynchospora glomerata</i> , var. <i>minor</i>	brown baakea rush	✓	
<i>Silene venecunda</i>	San Francisco campion		✓
<i>Tanacetum camporatum</i>	dune tansy		✓

Inventory of Rare & Endangered Vascular Plants of California, California Native Plant Society, April 1980, 2nd Edition. This inventory is recognized by the Calif. Dept. of Fish & Game as their species-of-concern list.

Listed below are special animal species for Santa Cruz County as per the General Plan (reference sec. 926.14):

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Special Animal Species of Santa Cruz County	
<i>species</i>	<i>status</i>
brown pelican	endangered
peregrine falcon	endangered
least tern	endangered
Santa Cruz long-toed salamander	endangered
coho silver salmon	locally rare
ornate shrew	locally rare
badger	locally rare
black-tailed hare	locally rare
Santa Cruz kangaroo rat	locally rare
coast horned lizard	locally rare
western whip-tailed lizard	locally rare
side-blotched lizard	locally rare
marbled murrelet	bully rare
golden eagle	locally rare
red-shouldered hawk	locally rare
mountain quail	locally rare
roadrunner	locally rare
spotted owl	locally rare
burrowing owl	locally rare
black swift	locally rare
dilated woodpecker	locally rare
yellow-breasted chat	locally rare
blue grosbeak	locally rare
clay-capped titmouse	locally rare
house wren	locally rare
canyon wren	locally rare
western kingbird	locally rare
horned lark	locally rare
bank swallow	locally rare
purple martin	locally rare
western bluebird	locally rare
Lawrence's goldfinch	locally rare
lark sparrow	locally rare
sage sparrow	locally rare
black-chinned sparrow	locally rare
snowy plover	locally rare
osprey	locally rare
yellow-billed cuckoo	locally rare

Source: Calif. Dept. of Fish & Game, Monterey Bay Regional Office, April 1980.
 U.S. Fish & Wildlife Service, 1976, "Endangered and Threatened Species," Federal Register 41(117):24524-24572 6/16/76.

Selective harvesting of timber will not significantly change the structure or composition of the existing forest habitat in the short-term and so is unlikely to affect bird or animal populations in the next decade. Those favored by more sun and the burst of low vegetation that follows opening the forest will be favored until the regrowth once again shades them out. No snags will be cut in order to retain that valuable habitat- No trees will be cut if raptor nests are noted in them. The annual rye grass used to seed areas of exposed soils to prevent erosion has been observed to be a non-invasive species, giving way to the native vegetation within a few years as the shade of the growing forest and time allow the recapture of sites by the native species.

1. Biological Impacts Assessment Area

Except for fish, the assessment area is the THP boundary and approximately 1/2 mile adjacent to it. The assessment area boundary was chosen to encompass the ranges of most animals whose feeding, resting and reproduction would be affected by the project.

3. Biological Resource Inventory

Listed below are species in the following categories known or suspected to occur in the biological assessment area: rare, threatened or endangered; species of special concern established by the Board of Forestry; sensitive species, including species listed as locally rare or endangered by Santa Cruz County.

Coho salmon are in the assessment area for fish (i.e., San Lorenzo River).

Steelhead are in Kings Creek All of the forestry regulations concerning prevention of erosion, landslides, and other water protection measures protect the fishery. The silvicultural method retains shade to prevent stream warming. For habitat analysis, see earlier assessments.

2. Listed below are other wildlife or fisheries resource concerns known or suspected to occur within the biological assessment area.

Redlegged frog (see Section III, Wildlife Protection)

3. Below is a description of the pre-project and the anticipated post-project condition of the biological resources inventoried within the biological assessment area.

1. Coho salmon, steelhead, and trout habitat is described earlier. The anadromous fish habitat -within the biological assessment area is expected to be improved by sediment reductions of the project, but other projects, winter access on dirt and gravel roads, will need to be controlled in order for Kings Creek to continue to improve over time. The condition of the Coho Salmon resource in the San Lorenzo River will depend on effects outside the assessment area, including drought and provision for estuary functions.

2. Redlegged frogs may be present in lower Kings Creek and in refugia along the San Lorenzo River. See Section III Wildlife Protection concerning habitat in the Kings Creek area.

Redwood forest can provide suitable habitat for many species, including many endangered or sensitive species. No endangered or sensitive species have been located in the biological assessment area. It should be noted however, that the THP contains mitigation to prevent significant adverse impacts to many species should they be encountered.

2. Habitat Condition

The following table provides a description of the pre-project condition of eight critical habitat components within the project area and the biological assessment area. The ratings are: 0-None, 1-well below average, 2-below average, 3-average, 4-above average, 5-well above average, Average = typical for forests in the Santa Cruz mountains.

Habitat Component Analysis			
component:	on-site	preproject off-site	post-project on-site
snags	3	3	3
nest trees	3	3	3
down woody debris	3	3	3
multistoried canopy	3	3	4
road density	3	3	3
hardwoods	3	3	2
late seral stage	3	3	3
continuity of late seral stage	3	3	3

0745

D. Significant Special Habitat Elements

- .. The following are significant wildlife areas located within the project area or the biological assessment area:
 - .. Riparian areas. Riparian vegetation does not extend into the Class II areas, and is mostly found in the lower Kings Creek area
 - .. The project will not significantly affect the use of the riparian areas. See earlier discussions in this analysis.

E. Other Projects

Other projects that might interact with the proposed THP.

- .. Other THPs could interact with the effects of this harvest in that the openings from harvesting will, in the short term, open the forest and provide additional grass, forbes, and edge, which will change the population dynamics around meadows and riparian areas. When these favorable openings disappear, it will push the increased population of those species favored by open areas into other areas. This is unlikely to be of any significance in that wildland habitats are constantly in flux, causing population shifts which effect prey and predator differently.
- 2. Neighboring landowners could change their mix of activities and/or pets affecting the numbers and distributions of wildlife in the assessment area.
- 3. Selective harvesting of this and other TPZ properties in the future is likely. Current laws prohibit and Forest Practice Rules are designed to prevent significant adverse impacts to most current biological resources.

F. Interactions

Considering the interactions between biological resources within, the assessment area. the current habitat conditions on site and within the assessment area. the ongoing effects of past projects, and potential future projects. the potential for developing additional significant cumulative effects to the biological resources within the assessment area is low.

G. Impacts Evaluation

Based on the information gathered by the RPF, the contents of the THP, the mitigating effects of the Forest Practice Rules, information from the review of other plans, the magnitude of impacts identified, the interactions noted above, and the analysis of research on the various aspects of harvesting impacts in the Santa Cruz mountains below, the proposed THP is unlikely to produce significant cumulative effects to the biological resources.

IV. CUMULATIVE RECREATION IMPACTS ASSESSMENT

ATTACHMENT 6

A. The Recreational Resource Assessment Area

The assessment area is the THP area, and within 300 feet on the immediately adjacent properties, and public roads adjacent to the THP and the haul route.

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B. Recreational Resource Inventory

1. Within the THP area the owners may use roads and skid trails for hiking and wildlife observance.
2. Highway 9 is part of the County system of Scenic Highways. Kings Creek Road receives significant commute traffic and some hiking and jogging use. These roads receive some use by recreational drivers on weekends mostly.
3. The lands surrounding the THP are private lands with the exception of the NE corner bordering State Park. The public use of private land is limited to the visual resource and the resource of quiet Recreation on neighboring properties could be affected by dust and noise. Weekday driving for pleasure, bicycle, and hiking uses on all public haul roads would be affected by truck traffic. Vajrapani could be affected by weekend noise.

C. Change in Recreational Resources.

1. Family recreational use of the property will be somewhat constrained by harvesting. It will be necessary to avoid work areas while they are active, to watch for hazards that may exist after logging such as slash.
2. Week day recreational travel on the public haul route may encounter logging trucks. Although logging trucks have used these roads recently, encountering logging trucks may surprise some drivers, and the slowness of trucks may temporarily inconvenience others, but the hazard associated with meeting a truck on these narrow one to two-lane roads will not change in that similar sized vehicles utilize these roads year around. The dirt/gravelled portion of the road will be watered to reduce dust below that normally encountered. The frequency of meeting a large vehicle will change somewhat for a relatively short time frame. Weekend recreational traffic impacts have been mitigated by the Forest Practice Rules which do not permit log hauling on weekends and holidays.
3. The change in the natural appearance of the harvest areas may have some effect on the recreational experience of neighbors using their own lands, but it will be minor, and the area will appear natural again within one to two years. The State Park land is very remote and unused, and will be protected by §913.8(a) selective cut and lopping of slash to 30 inches. There is some possibility of dust from the THP affecting neighbor recreation, but it will be temporary and mostly on week days. There will also be some noise from chainsaws and logging equipment. These could disrupt the natural quiet expected by residents and retreat visitors in the neighborhood. This will mostly occur during about one month of the logging season. Selective logging will mitigate some of the noise impacts as well as filter out dust stirred up by heavy equipment.
4. The weekday quiet in the Kings Creek canyon will be slightly disrupted by the noise of chainsaws and heavy equipment during the week and may disturb Saturday picnic, retreat, and recreational use in the Sleeper Gulch area of the THP (if Saturday operations are permitted), but will mostly effect those who live next to the property. This will mostly occur during a one month period of the logging season. The requirement of selective logging will mitigate some of the noise impacts by heavy equipment. Saturday noise will be offset by shortening of the logging season and reduction of forest fire risk.

D. Other Projects

Other timber harvesting projects could combine or interact with this project to cause cumulative effects

to recreational use on the haul route during weekdays, but significant impacts are not expected. No other projects are known which could combine or interact with this project to cause significant cumulative effects to recreation in the immediate vicinity of the assessment area.

3. Impact Evaluation

The proposed project, in combination with past and future projects will cause no significant impacts to recreation resources considering the mitigations provided by the Forest Practices Rules.

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V. CUMULATIVE VISUAL IMPACTS ASSESSMENT

A. Visual Impacts Assessment Area

The Views from neighboring parcels.

3. Visual Resources Inventory

Views from neighboring parcels.

C. Changes in Visual Resources

1. Near views of the harvest area from Sleeper Gulch Road to the Jackson parcel and the neighboring Kurpocki et al THP area.

D. Other Projects

There are no other projects known in the visual resources assessment area which have or potentially will change the visual resource:

E. Impacts Evaluation

The proposed project, in combination with the impacts of past and future projects identified above, and as mitigated by the Forest Practices Rules, have no reasonable potential to result in significant cumulative impacts to visual resources.

VI. CUMULATIVE TRAFFIC IMPACTS ASSESSMENT

A. Traffic Resource Assessment Area

The Traffic Assessment Area includes the private road within the timberland owners property to the nearest public road, and the public roads used as haul routes to the main State Highway system.

B. Traffic Resource Inventory

1. The main road within the Burch property has rights-of-way that allow access by others. Such use is limited to the Jackson family and the trips made by their friend and neighbors. The road system is quite adequate to safely handle such traffic.
2. Kings Creek Road is a narrow County Road, partly paved, some of it 2 lanes wide. It is the main artery for residential, institutional and log truck traffic in Kings Creek. It receives significant commute and recreational/educational (Scouts, IHM, Vajrapani) traffic. Logging trucks using the bypass bridge at the Scout Camp are limited to 8 loads per day. This haul route has been used to haul logs frequently in the past 10 years.

This harvest operation could add 4 to 5 log trucks per day, and approximately two crew trucks per day to the traffic on the haul route for 3 to 4 weeks. Log trucks would haul southwest to Highway 9.-

An average of 4 to 5 loads per day will be hauled each weekday of operations. This hauling will take place over 3 to 4 weeks depending on weather and other operational variables. By regulation, no hauling will be done on weekends or holidays.

Weekday public travel on the haul route may encounter logging trucks. Encountering logging trucks could surprise some drivers, but large trucks of many types are not uncommon on most of the haul route. The slowness of trucks may inconvenience other drivers, but the hazard associated with meeting a truck on these roads will not change. The frequency of meeting a truck will change slightly for a relatively short period.

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Week day use of the roads will be mitigated by signs warning of the presence of log trucks on either side of Kings Creek Road. Truck speed is to be Limited to allow stopping within 1/2 the sight distance. Some temporary inconvenience of proceeding at slightly reduced speeds may be experienced by some commuters. Weekend public travel impacts have been mitigated by the Forest Practice Rules which do not permit log hauling on weekends and holidays.

O t h e r Projects

Other timber operations may use this haul route. This does not change the safety of the roads, but it will make it more likely that someone will be inconvenienced by the slow speed of the trucks. Some effort must be made between timber operators to coordinate hauling within the 8 truck per day limit.

Truck drivers will need to be made aware of school bus (minibus) traffic in the first half mile of Kings Creek road, and when families transporting children to meet busses may be on the road:

No other projects are known to be in the area at this time.

Impact Evaluation

past log hauling operations using 6 to 10 loads per day on this and other similar roads have not caused traffic problems. This project, in combination with the impacts of past and future projects identified above, after mitigation by the Forest Practice Rules, the THP requirements, and State traffic regulations, have no reasonable potential to cause or add to significant cumulative traffic safety impacts.

1. CUMULATIVE FIRE IMPACTS ASSESSMENT

a. Fire Hazard Assessment Area

The Fire Hazard Assessment Area is the water resources assessment area. This area is selected because it is bounded by the ridges and fire breaks that would be used to contain a major fire.

b. Hazard and Risk Inventory

1. Fuels in the watershed are quite heavy, and variable. The three main vegetation types are Redwood Forest, Mixed Evergreen Forest, and Chaparral/Knobcone Pine on high ridges and upper south-facing slopes. The two forest types generally are cooler, with higher humidities, but heavier fuel volumes than the Chaparral/Knobcone type. Except for large fires under extreme fire conditions, a fire starting in the two forest types can be expected to travel more slowly and be easier to contain than in the chaparral/knobcone type.

2. The managed forests have moderate accumulations of branches, slash, duff and debris on the forest floor. Openings contain blueblossom, and coyote brush, in amounts that provide ladder fuels to the canopy, but where logging has taken place, brush is not senescent. Where logging has occurred in the Last 10 years or more, the stump sprouts also create ladder fuels. The forest will be

generally denser because of sprouts and planted trees, and have higher humidities. The managed properties have road networks and many skid trails that provide quick control. Lines should a fire occur. The unmanaged forests have lesser amounts of debris on the forest floor and lesser amounts of ladder fuels, but have more difficult access for fire crews and lack the firebreaks provided by roads and skid trails.

3. The chaparral/knobcone scrub areas have substantial accumulations of dead material, and generally lower humidities. These are recognized fire types, and have been perpetuated by fires. Fuel accumulations are large, ladder fuels are throughout, fire spread rates very rapid, and fire control very difficult.

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4. The risk of fire starts is mostly from human activities. Smoking, campfires, welding, machinery and other human activity cause most fires. Human access is therefore the major risk for fire starts. Logging may be a source of fires if equipment does not meet legal fire-safe specifications, if welding or smoking or other activities are done in violation of law. Homes, camps and off-road-vehicles (ORVs) may be sources of fire risk.

C. Changes in fuels and risk

1. Changes concurrent with logging:

This THP will bring men and equipment into the woods, increasing the risk. Slash and debris will be accumulated during logging increasing the fuel load. Trees will be spaced farther apart, and ladder fuels will be knocked down. Humidities will drop due to more exposure to sunshine. Skid trails and roads will be cleared creating fire breaks. Fire tools, fire fighting equipment (bulldozers & chainsaws), and manpower will be immediately available to fight fires. Equipment will be inspected for fire safety. Chainsaw operators will have a fire extinguisher or shovel with them. Fire blankets or clearings will be made around cable blocks. Welding will only be done in cleared areas such as landings. A watertruck may be, and backpumps will be available on the job.

2. Changes following logging.

Slash treatment following logging will bring slash close enough to the ground to encourage rapid decomposition and maintain higher fuel moistures to reduce fire spread rates and make control easier. Skid trails will provide fire breaks for several years, and roads will be maintained open, which will provide access for firefighting equipment.

3. Redwood Empire will continue to gate its properties in the watershed to reduce trespass ORV and camping activities.

D. Impact Evaluation

Timber harvesting increases the risk of fire in the short term, but fire prevention regulations mitigate that risk. Over the long term the fire hazard is reduced by the management of fuels, changing the forest structure, maintenance of access for fire equipment, and control of trespass camping and ORV use. The long term improvement of access provides some mitigation for the hazards inherent in the dangers potential from very large fires in the watershed.

VII. SOURCES OF INFORMATION

CDF records of previous harvests on file in the Felton Office.

California Dept of Fish & Game, Coho Salmon Habitat Impacts, 1 1/94, Draft 2
Santa Cruz County Assessors Office.

The Northwest Information Center, California Archeological

Inventory, Dept. of Anthropology, Sonoma State University
Patrick Orozco re Ohlone cultural sites.

Dave Hope, Santa Cruz County Planning re: projects and fisheries.

The owner re all resources, and projects.

Natural Diversity Database dated 1990, 1992. & 1991 maps

Santa Cruz County General Plan Biota List dated 9/20/80

CCR 9 19ff Wildlife Protection Practices dated 6/19/92 & 1/7/94

CESA 1996. CESA Biological Opinion by Calif. Dept. of Fish & Game

Dept of Fish and Game, 1994. *COHO SALMON HABITAT IMPACTS*

Smith, 1992, 1993, 1995. Publications on Coho and Steelhead distribution during 1990s by Dr. Jerry Smith

SLV Co Water District

Rowland, Leon. 1980. SANTA CRUZ The Early Years. Paper Vision Press

WAC Corporation 1985 Aerial Photos were useful for vegetation, land use, topographic, and landslide identification.

Other resources are referenced following the general analysis of timber harvesting in the Santa Cruz mountains.

ATTACHMENT 6

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Potential Watershed Effects

Timber harvesting has some potential for creating negative effects in watersheds. Soil disturbance may indicate the potential for timber growth impacts from compaction, loss of infiltration rate for rainfall, potential for increased storm flow, increased soil loss, and sediment inputs to watercourses. Biomass loss from logging may indicate nutrient inputs to the streams or loss of sustainability. Changes in the structure and numbers of trees may cause increased summer flow of water and change in wildlife kinds and numbers. Each of these is discussed below.

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Sediment and Organic Debris

Sediment effects from timber harvesting are not likely to be significant for the following reasons. Sediment yields from logging are most closely related to road construction, with most major impacts occurring within 10 years (Ziemer 1991). Mass wasting provides the greatest source of sediment yields to streams (Fredriksen 1971-72, Rice 1977). Soil disturbance may block the natural piping systems present, delay runoff, thereby increasing pore pressure and the probability of slope failure (Ziemer 1981 b). Slides often occur 8 years or more after logging because of rotting of roots which provide major structural strength to steep slopes (Ziemer 1991, Swanston 1976). However, because of the sprouting nature of redwoods, the major root loss and loss of soil shear strength may not occur (Rice 1977) except where Douglas-fir is present and is cut. In addition, the selection system leaves a substantial forest in which evapotranspiration reduces soil moisture and the potential for slides (Rice 1977). The 10 year recovery period reported by Ziemer (Ziemer 1991) included recognition of mass wasting due to root loss. This must mean that in areas where such root loss does not occur, recovery from the increases in sedimentation due to logging occur in a shorter period. The addition of significant impacts to the natural instabilities of the planning watershed is unlikely if the major risk areas are recognized and avoided in future logging plans.

Road construction is the greatest source of soil disturbance from timber harvesting (Fredriksen, 1971-72). Most sedimentation caused by road construction comes from slides (Fredriksen, 1970), and this ties place at major risk areas (Rice, personal communication). However, much of the basic mad system within the planning watershed has been built, and has weathered many winters of many storms. Most of the major instabilities have been tested, and most of their potential impacts have passed through the watershed. This means that most of the cumulative impacts from logging in this watershed have occurred, and the watershed is healing with respect to those impacts.

Soil Disturbance from Logging

The amount of soil disturbance from logging under the Santa Cruz mountain Rules can be estimated by comparison to various studies of logging impacts. Rice, Rothacher and Megahan report 8.4 to 9.0% soil exposure from selection logging with tractors (Rice Rothacher, and Megahan). Mark Hannon reports on his unpublished study in the local area that 10% of the area was in roads and skid trails (Hannon 1991) versus 15% in Caspar Creek. A local study of unknown source (in about 1976) reported that 13% ground disturbance could be expected with tractor logging, including roads. A recent study estimated that logging using existing roads and landings will reduce disturbance to 9% and the crushing of slash on skid trails in key locations prevents drainage into roadside ditches and streams. Such local practices reduce soil movement into streams by an order of magnitude (Rice, 1990). Harvest areas are normally completely revegetated and healed after three years. When the percentage of soil disturbance is combined with the percentage of watershed area logged during the three years required for healing, it must be concluded that the magnitude of watershed disturbance is very small

Water Yields and Peak Storm Flows

Several careful studies have shown no significant changes in peak flows either from logging, road construction or both. In Caspar Creek neither selective logging (67% of the volume) nor road construction (15% roads and skids roads) affected peak flows significantly. Infiltration rates were not changed overall, and peak flows were not larger. The smallest 1/4 of peak flows were increased (Ziemer 1981 a). Harr (1876 a. 1976 b) found that if 12% of a watershed was in roads and skid roads, there was a significant increase in peak flows, but where less than 5% of the watershed was severely compacted there was no increase in peak flows. Rothacher (1973) found no increase in peak flows when 5% or less of soils in a watershed were compacted. Another study found disturbed soils from logging decreased peak flows (Cheng 1975). These studies indicated increases in peak flows from major storms due to logging would likely be very small to not measurable.

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Increased Summer Flows

Small increases in summer flows from logged areas have been recorded. The increases though small, are relatively large because of the normally low summer flows. These increases are greatest when significant portions of the watershed are logged, and the flow declined as vegetation regrowth took place (Harr 1976).

Water Temperature Effects

Most streams in the Santa Cruz mountains are heavily forested for most of their length. Even some of the upper tributaries of watersheds which head on the brushy slopes of the Santa Cruz mountains are timbered along the watercourse edges. The waters are therefore almost completely shaded for most of the day. The selection systems under 913.8(a) leaves streamside shading of 50 percent or more. The continued use of 913.8(a) selective silvicultural system to retain canopy following harvest and retention of at least 50% of the shade canopy along the Class II will minimize impacts.

Soil Productivity

Soil productivity can be effected by soil loss (potentials described earlier under sedimentation), by compaction, organic matter loss, and loss of space to roads and skids trails. The potential losses to compaction and nutrient losses are described below.

Compaction.

Logging causes soil compaction primarily from ground skidding. Rubber tired skidders cause the most compaction, MC skidders the least among ground skidders. Most of the logging in local watersheds has been done by tractor skidding. There has been a small amount of cable yarding, and very little rubber-tired skidder operation.

Growth losses have been claimed to take place from compaction, although measurements of losses over time due solely to compaction are ambiguous. Increase in bulk density impairs root penetration, aeration, soil moisture availability (R F Powers et al 1988), and decreases microbial activity for up to 5 years. The first nip with a machine does the most compaction, and compaction effects may persist 20 to 30 years. However, the effects are greatly reduced by organic matter in the soil, and specific effects have not been separated from disturbances or removal of the soil surface (Childs et al. 1989). Helms & Hipkin (1986) showed decreased shoot growth the first 5 years, but growth effects over 10 years were unclear. Some work shows that trees grow better in compacted skid trails than under vegetation competition conditions with no compaction (Powers et al 1988). In these study areas, the effects of compaction are ambiguous. In the Santa Cruz mountain area, the potential

effects of compaction are probably further reduced by the incorporation of slash and debris into the soil. Theoretically, compaction can cause long term growth losses, and should be avoided, but actual significance is unclear. The cumulative impacts of compaction in a local watershed must be considered insignificant.

Compaction is reduced by the presence of organic material in the soil as well as slash and debris on the surface which spreads the weight of the machine. Other reductions can be gained by minimizing the number of skid trails, using existing skid trails, and pulling cable to logs, or converting to cable operations.

Slash will be lopped allowing woody material to reincorporate into the soil maintaining its structure and porosity, as well as aeration and organic activity which reduces effects of compaction. Due to the generally moderate terrain where tractor yarding is allowed blading will be minimal resulting in the retention of tie wood and humus, as well as the vegetation where ever it exists. Existing skid trails will be reused as much as possible and new skid trail development will be minimal.

Nutrient Cycling and Long-term Nutrient Losses

There is concern that logging and its associated soil disturbance may result in long-term nutrient losses. Nutrient loss occurs when biomass is removed from the forest. Removing the boles of trees typically leaves more than 95% of N on site. Long rotations remove less nutrients than short (20 years). Sufficient nutrients are added through natural processes over a rotation to balance removal of logs only, during a rotation, so there is probably no cumulative effect, even with "cool bums" of slash (Edmonds et al 1989).

Availability of nutrients can be changed by loss of nutrient capital through loss of soil (especially the A-horizon), by fertilization; and nutrient availability can be changed by changing nutrient turnover rates. Harvesting can disturb the soil structure by displacement, churning, and actual erosion loss. It can also improve nutrient cycling by incorporation of litter and wood, and by increasing decomposition by creating warmer, moister conditions. Management of organic matter is paramount to productivity, and could be used to indicate long-term trends in productivity (Atzet et al 1989). Observation of almost any property in the Santa Cruz mountains will show that lopping and crushing of slash instead of burning it creates a very positive organic matter recycling, and indicates it is very unlikely that we have negative cumulative impacts occurring to watershed nutrient balances.

Biological Resources

Changes in Form Structure and Species

The timber stands vary from dense redwood to predominately hardwood stands, however, most areas are mixed evergreen with redwood and Douglas-fir basal areas of 150 to 300 square feet or more. Considerable coniferous regeneration of seedlings, saplings, and poles are often scattered throughout this mixed evergreen stand. Current silvicultural regulations promise to produce a much denser coniferous component in the future.

The forests in the Santa Cruz mountains have been through major structural changes. The original cutting was mostly clearcutting with the slash burned following removal of the logs. The heavy volume of slash and cull parts of trees, plus hardwoods smashed during logging meant that slash fires were very hot, and undoubtedly damaged the soil by burning the organic component as well as subjecting the soils to tremendous erosion. The forest in place now is not the natural forest that one may find in some parks such as Big Basin, but it is the "recovery forest". It undoubtedly has a higher percentage of hardwoods due to their sprouting capability, and ability to occupy harsh sites. Much of the pure hardwood forest probably had a significant Douglas-fir component prior to the early 1900s program of clearcutting and burning.

The program of selection cutting on a sustained yield basis will bring about further changes, This program has been on-going since about 1970 when the County began to regulate harvesting. Selection cutting favors the dominant shade-tolerant tree, which is redwood. Tanoak is extremely shade-tolerant, and Like redwood. it sprouts from the stump when CDL Tanoak is found in all redwood forest areas to some extent, and its numbers can increase with harvesting, but while it can suppress Douglas-fir, redwood eventually overtops it and causes a decrease in vigor, and some mortality. Douglas-fir has difficulty living under tanoak and surviving to overtop it, however, in mixed hardwood stands of tanoak and madrone, the long-run favors Douglas-fir, and disfavors madrone.

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The long term selection forest is very likely to increase its percentage of redwood as the dominate shade tolerant tree. It will favor tanoak in numbers but not dominance, and Douglas-fir will increase because of openings created by logging and its ability to overtop mixed hardwood forests. Madrone will decrease. These changes may have have significant wildlife impacts over several decades.

Selective harvesting of timber may significantly change the structure or composition of the existing forest habitat in the short-term and so increase the diversity and richness of bird and animal populations in the next decade. Those favored by more sun and the burst of low vegetation that follows opening the forest will be favored until regrowth once again creates shade reducing their numbers. No snags will be cut in order to retain that valuable habitat No frees will be cut ifraptor nests are noted in them. The annual rye grass frequently used to seed areas of exposed soils to p-event erosion has been observed to be a non-invasive species, giving way to the native vegetation within a few years as the shade of the growing forest and ● d.me allow the recapture of sites by the native species. Every time logging takes place, there will be a short term positive effect on most wildlife species on or in the immediate vicinity of the logging area.

The overall forest structure with a program of selection cutting, especially as new rules emphasize large-r taller trees, will be shadier, it will have more redwood, hardwoods will be less prominent. Douglas-fir will have greater numbers in the mixed evergreen forest, and madrone may decline. The forest canopy will be more layered as the various age-classes develop following harvesting of the even-aged second forest. The openings created by logging will last for a shorter period of time reducing the period of sunlight when secondary succession species can flourish. Sparrows and other seed-eaters will decline in numbers. A reduction in madrone will probably cause a decline in bandtailed pigeons, grosbeaks and doves. Deer will likely be fewer in number, which will reduce lions. Especially in redwood areas, large tanoaks (which produce lots of acorns) will be fewer, so there will be fewer small mammals such as squirrels and woodrats, and therefore fewer of their predators such as coyotes, foxes, bobcats, hawks, and owls. The increases in biomass is likely to reduce summer stream flow. These changes will occur gradually. It will be very difficult to say when the change is significant or whether it is a positive or negative impact.

Sustained Yield

Progress has been already made to move the Santa Cruz mountain watersheds toward a sustained yield structure with increasing standing timber volumes and larger tree sizes. Areas selectively harvested under 913.8(a) since about 1970, are well stocked with excellent regeneration in various age-classes dating from the harvests. Some areas have been harvested twice since the original clearcut, and the uniform forest dating from the clearcut period is being replaced by the layered structure of the multi-aged forest. Some areas of hardwood cutting have been planted successfully, some interplanting of openings in the forest have been successfully planted increasing the stocking and density of the forest. It will take about 4 cutting cycles to develop the full sustained yield

regulation of the forest at an optimum growth age of 65 to 70 years (culmination of mean annual increment).

Sustained yield has to do with periodic cuts which can be made forever, without a decline in long-term productivity. When a harvest is performed the "forest factory" is reduced in its size and growth declines temporarily. It regains its productive capacity in a short time, and that time depends on how heavily it is cut. Because of the longevity and vigor of the coast redwood, it may never reach a point (in less than 700+ years) where it can be managed, on a selective system, for "non-declining" yield, when it fully occupies the site, and the cut comes only from harvesting mortality. Any other cutting will result in less than full site occupancy for some period of time. When the site is shared with shade tolerant tanoaks, the recovery time for redwood to regain its level of site dominance may be longer, but it will surpass tanoak, though rarely eliminate it.

Notwithstanding other objectives of a timber owner, the first cuts in the even-aged forest should be relatively heavy to open up the stands and get a good start on regeneration. Later cuts may be lighter or not depending on the stand density, to continue the growth and create room for the next age class. Any time redwood is harvested experience has shown the forest will always have more redwoods than before harvesting, from stump sprouts, root sprouts, and seedlings. The intensity of cuts during successive periods must be timed so as to achieve sustained yield and is controlled by current regulations.

Potential Fire Risk and Control

The fire risk from logging may be increased by the presence of men and machinery in the woods. The warmer, drier climate of harvest openings may allow a fire to burn faster and earlier in the fire season. The managed forests have moderate accumulations of branches, slash, duff and debris on the forest floor. Openings contain blueblossom, and coyote brush, in amounts that provide ladder fuels to the canopy, but where logging has taken place, brush is not senescent and dry. Where logging has occurred in the last 10 years or more, the stump sprouts also create ladder fuels. The forest will be generally denser because of sprouts and planted trees, and have higher humidities. The managed properties have road networks and many skid trails that provide quick control lines should a fire occur. The unmanaged forests have lesser amounts of debris on the forest floor and lesser amounts of ladder fuels, but have more difficult access for fire crews and lack the firebreaks provided by roads and skid trails which provide immediate access to men and equipment.

The fire risk from logging is mitigated by Forest Practice Rules including spark arrestors on equipment, fire extinguishers with chainsaws, fire tools for the logging crew, and bulldozer for fireline construction. Slash is lopped following the harvest to reduce the aerial fuel which will reduce the rate of spread of a fire, and speeds reduction of slash into mulch. The balance of risk of fire from the combination of these uses is insignificant.

State & County Effects

Housing and other building construction in Santa Cruz and San Mateo Counties require importing timber from out of county and out of state. It may require utilization of environment & more harmful wood substitutes like aluminum siding (6 tons of soft coal per ton of aluminum, and damming of the Columbia river for cheap power). A concrete floor uses 21 times the energy of wood. Use of steel studs for construction requires 9 times the energy to produce and use than does wood (Koch, 1991). To the extent Santa Cruz mountain timber use prevents substitution of timber from out of state, or the use of substitute materials that all have substantially higher energy and environmental costs: use of the local renewable timber resource shortens the supply lines, prevents the use of diesel and highway pollution from trucking in timber products, prevents the use of high energy substitute building materials, providing a partial sharing of the environmental costs of building in Santa Cruz and San Mateo Counties. In addition, the use of local well regulated California timber reduces the use of

References

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- Atzet, Thomas, Robert F Powers, David H McNabb, Michael P Amaranthus, and Edward R Gross. "Maintaining Long-Term Forest Productivity in Southwest Oregon and Northern California," in Maintaining The Long-Term Productivity of Pacific Northwest Forest Ecosystems D A Perry et al Editors, Timber Press, Portland, Oregon
- California Code of Regulations (CCR), Tide 14, Division 1.5, Chapter 4, Subchapter 4, 1992.
- Cheng, J D, T A Black, J deVries, R P Wigington, and B C Goodell. 1975. "The Evaluation of Initial Changes in Peak Streamflow Following Logging of a Watershed on the West Coast of Canada." in PUBLICATION No 117 DE L'ASSOCIATION INTERNATIONALE DES SCIENCES HYDROLOGIQUES SYMPOSTUM DE TOKYO
- Childs, S W, S P Shade, D W R Miles, E Shepard, and H A Froehlich. "Soil Physical Properties: Importance to Long-Term Forest Productivity." in Maintaining The Long-Term Productivity of Pacific Northwest Forest Ecosystems. 1989. D A Perry et al Editor. Timber Press, Portland, Oregon
- Edmonds, Robert L, Dan Binkley, Michael C Feller, Phillip Sollins, Albert Abee, and David D Myrold. 1989. In D A Perry et al Editor. Timber Press, Portland, Oregon
- Fredriksen, R L, 1970. "Erosion and Sedimentation Following Road Construction and Timber Harvest on Unstable Soils in Three Small Western Oregon Watersheds." USDA Forest Service Research Paper PNW-104. 15pp
- _____. 1971-72. "Impact of Forest Management on Stream Water Quality in Western Oregon," Pollution Abatement and Control in the Forest Products Industry, Proceedings. USDA Forest Service, pp 37-50.
- Gain, Marybeth, and Steve Stauss. 1976. LAND USE - LAND COVER. MAP. Santa Cruz County Office of Watershed Management
- Hannon, Mark. 1991. Unpublished Study of Ground Cover in Gazos Creek Following Selective Cut and Tractor Yarding, San Mateo County, California
- Harr, R Dennis. 1975. "Forest Practices and Streamflow in Western Oregon," USDA Forest Service-General Technical Report PNW-40.
- _____. 1976. Letter to P A Twighr dated 8/27/76
- Harr, R Dennis, Warren C Harper, James T Krygier and F S Hsieh. 1975. "*Changes in Storm Hydrographs After Road Building and Clear-cutting in the Oregon Coast Range." Water Resources Research VOL. II, No. 3. 9 pp.
- Heims, J A, and C Hipkin. 1986. "Effects of Soil Compaction on Height Growth of a California Ponderosa Pine Plantation." Western Journal of Applied Forestry 1(4)1986.
- Hop, David. 1992. Office of Watershed. Timber and Erosion. Santa Cruz County Planning Department, 701 Ocean Street Santa Cruz, California
- Koch, Peter. 1991, Wood Science Laboratory, "Wood vs. Non-wood Materials in 'US Residential Construction: Some Energy-Related International Implications'" Working Paper # 36, Oct. 199 1, for Center for International Trade in Forest Products, University of Washington.

Munz, Philip A. and David D Keck. 1959. A California Flora. University of California Press, Berkeley, California

McCashion, John D, and Raymond M Rice. 1983. "Erosion on Logging Roads in Northwestern California: How Much is Avoidable?" Jour. of Forestry, January 1983. pp 23-26.

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Powers, R F, D H Alban, R E Miller, A E Tiarks, Carol G Wells, P E Avers, R G Cline, R O Fitzgerald N S Loftus Jr. 1988. "Sustaining Site Productivity in North American Forests: Problems and Prospects," Proc. 7th North Am. Forest Soils Conf., July 24-28, 1988. Univ British Columbia, Vancouver, B C

Rice, Raymond M. 1977. "Forest Management to Minimize Landslide Risk." Guidelines for Watershed Management, FAO Conservation Guide. Rome. pp 271-287.

Rice, R.M. and J S Krammes. 1971. "Mass-Wasting Processes in Watershed Management." Proceedings of the Symposium on Interdisciplinary Aspects of Watershed Management, Bozeman, Montana 1970. pp 321-359.

Rice, R.M, J S Rothacher, and W F Megahan, "Erosional Consequences of Timber Harvesting: An Appraisal," National Symposium on Watersheds in Transition. pp 321-329.

Rice Raymond M. 1990. "Hydrological and Erosional Analysis of the Upper Butano Creek Watershed." in CUMULATIVE IMPACTS FOR FORESTERS. California Licensed Foresters Association Workshop. September 5-6, 1991.

Rice, Raymond M. 1991. "Hydrological and Erosional Analysis of THP 1-89-82 SCR, Amendment #6, in the Logan Creek Watershed." Prepared for Peter Twight Associates, Inc.

Rothacher, Jack. 1973. "Does Harvest in West Slope Douglas-fir Increase Peak Flow in Small Forest Streams," USDA Forest Service, Research Paper PNW-163.

Swanston, Douglas R 1976. "Erosion Processes and Control Methods in North America." USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, Corvallis, Oregon.

Swanston, Douglas N and Frederick J Swanson. 1976. "Timber Harvesting, Mass Erosion, and Steep Land Forest Geomorphology in the Pacific Northwest." In Geomorphology and Engineering. Donald R Coates Ed., Dowden, Hutchinson & Ross, Inc. Stroudsburg, PA.

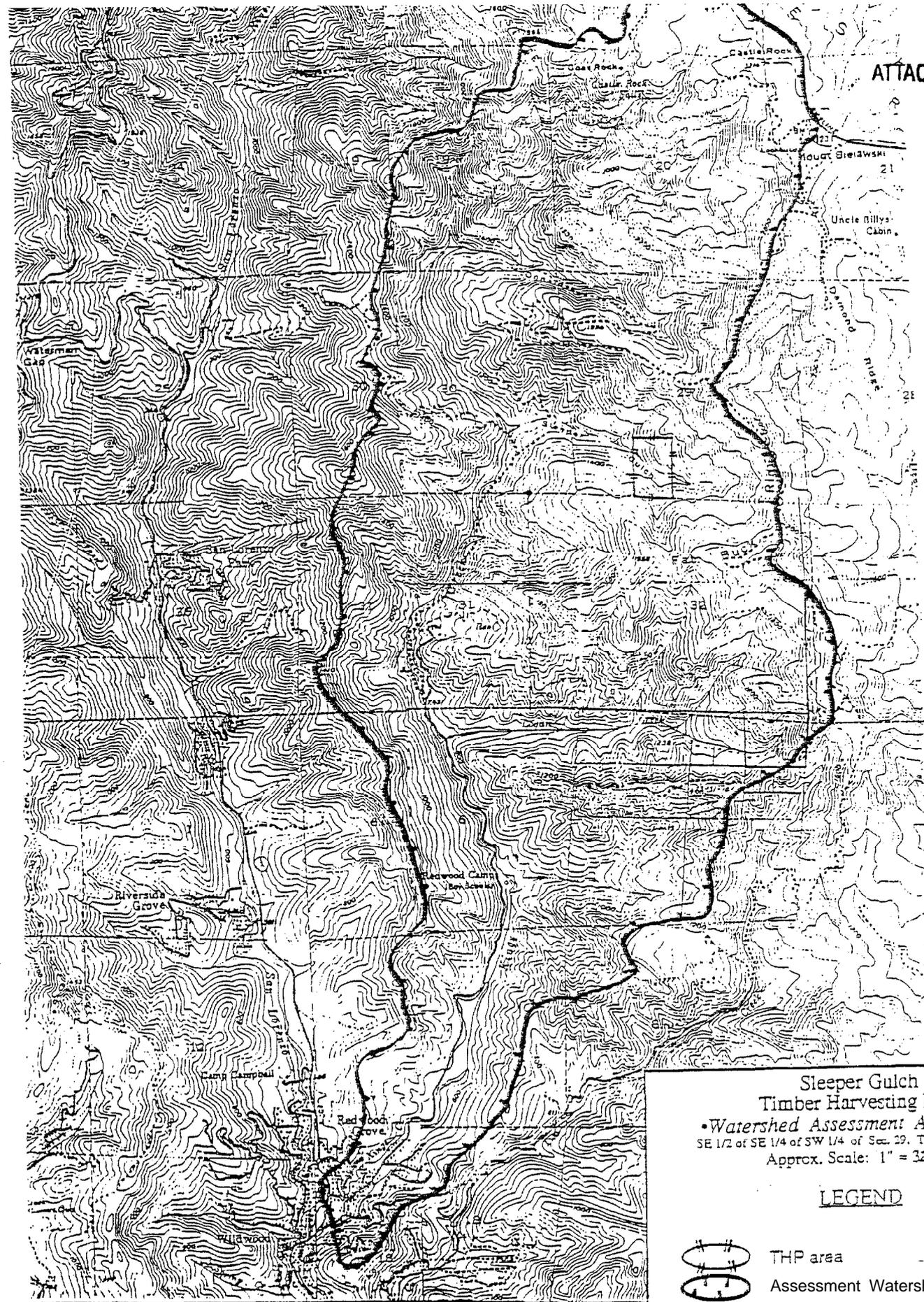
U S D A Soil Conservation Service, 1976. Soil Survey of Santa Cruz County, California US Government Printing Office.

Ziemer, Robert R. 1981a. "Storm Flow Response to Road Building and Partial Cutting in Small Streams of Northern California" Water Resources Research Vol. 17, No. 4, pp 907-917.

Ziemer, Robert R. 1981b. "Management of Steep Land Erosion: An Overview," Journal of Hydrology. (NZ) Vol. 20 no. 1, 1981.

Ziemer, Robert R. 1991. "An Approach to Evaluating the Long-term Effects of Land Use on Landslides, Erosion, and Stream Channels." (in Press) Japan - United States Symposium on Snow Avalanche, Landslide, Debris Flow Prediction and Control.

0758



Sleeper Gulch
Timber Harvesting Plan
 • Watershed Assessment Area Map •
 SE 1/2 of SE 1/4 of SW 1/4 of Sec. 29, T3S, R2W, MDBM
 Approx. Scale: 1" = 3250'

LEGEND

North
↑

 THP area
 Assessment Watershed boundary
 USGS Big Basin 8 Castle Rock Rd

See the attached
CONFIDENTIAL
Archeological Addendum
on the following pages

0759

NOTE

0760

Information concerning archeological sites has been removed from this THP, 1-97-254 SCR, in accordance with the policy of The Office of Historic Preservation as adopted by the State Historical Resources Commission under the authority of Public Resources Code 5020.4.

Copies of the information have been sent to the following locations to facilitate review of the project:

1. CDF field unit - Felton

The original copy of this material is maintained in a confidential file at CDF Region I Headquarters, 135 Ridgway Avenue, Santa Rosa, CA 95401.

PAGES 51 - 60

See the following attachments

- Erosion Hazard Rating Worksheet •
- Notification of Intent Mailing List •
- Notification of Intent •

076 1

762

ESTIMATED SURFACE SOIL EROSION HAZARD
RM-87 (4/84)

STATE OF CALIFORNIA
BOARD OF FORESTRY

I. SOIL FACTORS				Ben Lomond - Felton Complex			FACTOR RATING BY AREA		
A. SOIL TEXTURE	Fine	Medium	Coarse	A	B	C			
1. DETACHABILITY	Low	Moderate	High						
Rating	1-9	10-18	19-30	23					
2. PERMEABILITY	Slow	Moderate	Rapid						
Rating	5-4	3-2	1	2					
B. DEPTH TO RESTRICTIVE LAYER OR BEDROCK									
	Shallow	Moderate	Deep						
	1"-19"	20"-39"	40"-60" (+)						
Rating	15-9	8-4	3-1	2					
C. PERCENT SURFACE COARSE FRAGMENTS GREATER THAN 2 MM IN SIZE INCLUDING ROCKS OR STONES									
	Low	Moderate	High				FACTOR RATING BY AREA		
	(-) 10-39%	40-70%	71-100%				A	B	C
Rating	10-6	5-3	2-1	5					
SUBTOTAL							32		

II. SLOPE FACTOR

Slope	5-15%	16-30%	31-40%	41-50%	51-70%	71-80% (+)			
Rating	1-3	4-6	7-10	11-15	16-25	26-35	14		

III. PROTECTIVE VEGETATIVE COVER REMAINING AFTER DISTURBANCE

	Low	Moderate	High			
	0-40%	41-80%	81-100%			
Rating	15-8%	7-4	3-1	3		

IV. TWO-YEAR, ONE-HOUR RAINFALL INTENSITY (Hundredths Inch)

	Low	Moderate	High	Extreme			
	(-) 30-39	40-59	60-69	70-80 (+)			
Rating	1-3	4-7	8-11	12-15	15		
TOTAL SUM OF FACTORS					64		

EROSION HAZARD RATING

<50	50-65	66-75	>75			
LOW (L)	MODERATE (M)	HIGH (H)	EXTREME (E)			
THE DETERMINATION IS				11		

7540-130-0435

0763

July 10 1997

Leslie Markham, Staff Forester
California Department of Forestry
P O Box 870
Santa Rosa, CA 95402-0670

Re THP 1-97-254 Sleeper

Dear RPF Markham:

The following is in response to questions prior to the PHI using the same numbers as in C J Abshear's letter of 8/30/97:

1. A map showing the Special Treatment Area as per § 895.1 will be provided at the PHI. Trees will be felled away from STA, while the silviculture requirements of the Southern Sub-District rules will be sufficient to protect aesthetics.

2. We have received no written response from the domestic water inquiries sent out as per § 1032.10.

3. Map point R-6 was accidentally omitted in the final map draft. A revised map showing the location will be provided at the PHI. All map points have been flagged in the field.

4. Proposed trail at map point R-4 is the only location where trail will be constructed on >50% slopes. A revised map with proper symbols will be provided at the PHI.

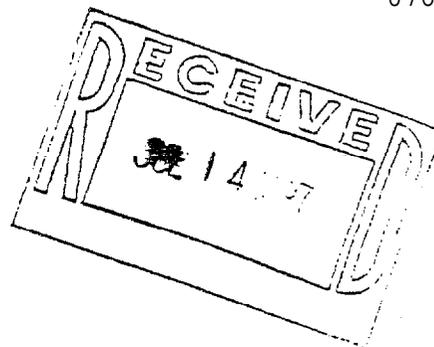
5. When tractor operations in the winter period (§ 926.18) are halted by the accumulation of 4" of rain, they will not be allowed to resume until April 15. *or Nov. 15 whichever comes first*

6. Page 10 has been revised for clarity and enforceability and will be provided at the PHI.

7. Class III EEZs will be flagged in the field prior to operations. EEZ width will vary in width from as ~~narrow~~ as 10' to as wide as necessary to allow adequate filter capacity around watercourses. A revised Item 18.D.2 on page 8 will be provided at the PHI. *See revised p. 8 # 18 D. 5*

8. A short portion of existing road approximately 70' long in the Class II WLPZ is described in Item 18.A. map point R-7, and in 18.C.1. No other roads are under our ownership or control. Portions of the haul route under public and multiple private ownership control exist near Class I and II watercourses.

9. The skid trail west of crossing #5 is not an in lieu practice. Use of existing



MARKHAM

OFFICE

EXHIBIT K

6 4

THP# 1-97-254 SCR Landowner BURCH

ATTACHMENT

6

Inspector (CDF, RPF* or designee) D a t e

Current Accumulated Rainfall, July 1 - June 30 season (Recommended) _____

Applicability Category	Implementation Quality Code	Effectiveness Code
N - does not pertain to operation	1 - high quality	1 - improved habitat protection
Y - pertains to operation	2 - adequate quality	2 - maintain habitat protection
1 - conforms to rule	3 - inadequate quality	3 - decreased habitat protection
2 - alternative practice	4 - significantly inadequate	4 - significantly decreased habitat protection
	5 - not installed	

0764

Mitigation (2090)	Applicability Category - RT		Implementation Quality Code		Effectiveness Code	
	Y or N	1 or 2	RPF*	CDF/DFG	RPF*	CDF/DFG
Class I Watercourses						
1_ 85% / 75% canopy retention	N					
Class II and Class III Watercourses						
2.1_ no sediment from roads w/in WLPZ	N	2				
2.2_ WLPZ roads rocked, abandoned, stabilized	Y	1				
2.3_ WLPZ trails trashed	Y	1				
2.4_ <100sq.ft. exposed soil in WLPZ	Y	1				
2.5_ WLPZ tree marking	Y	1				
2.6_ LWD recruitment	Y	1				
2.7_ 3 year erosion control	Y	1				
<i>proposed alternatives:</i>						
Class II Watercourses						
3_ 75% canopy retention	Y	2				
Class III Watercourses						
4.1_ flagged trail crossings	Y	1				
insert # of crossings here:		2				
4.1_ equipment exclusion zones	Y	1				
4.2_ protection of LWD in channel	Y	1				
4.3_ no soil movement into the channel!	N					
from site preparation activity						
<i>proposed alternatives:</i>						
Watercourse (other mitigations)						
5_ DFG approval of mitigation	N					
Class A Watercourses Only						
1_ flow reductions	N					
2_ instream activity during critical stages	N					
of life cycle						

Notes:

*If please attach inspection route map

rev 3/97

discussion or map showing the location. Please correct accordingly.

2. Provide a copy of the responses received as a result of the domestic water inquiries, ref. 14CCR 1032.10.

ATTACHMENT

6

3. Map point R-6 was not found on page 15. Please verify its existence, or provide.
4. Within the map legend-page 15, you identify Proposed skid trails, portions on > 50% slopes, however, no symbol was provided. Please correct.
5. Under Item #23 E--please define the time period tractor operations will be stopped for, i.e. when will they start again?
6. With regards to Item #26--Class II watercourses please clearly specify what canopy retention is proposed for this plan, remove the retention percentage that is not proposed, and remove the word "may" as this is not enforceable language, ref. page 10.
7. With regards to the Class III watercourses, specify the width of the EEZ and describe in enforceable language, ref. pages 10-11.
8. Please show the location of the WLPZ roads (including appurtenant roads) as such on the THP map pursuant to 14CCR 1034(x)(16).
9. Is the skid trail west and east of Crossing #5 a prepared tractor crossing as described in 14CCR 916.4(a). If so, this is not considered an in lieu practice, ref. 14CCR 91&3(c)(1). If it is an in lieu show on the THP map as such, ref. 14CCR 1034(x)(16).
10. Move the information regarding winter operations within the WLPZ (currently located under Item #32) to Item #23 for clarity and the LTO's operational information regarding winter operations.
11. Considering your request for modification of hours of work, please clarify whether the dwelling located northwest of the property is inhabited, and whether discussion with them has occurred regarding your request.
12. Please discuss operations relative to the unstable areas on the plan. How will they be identified by the LTO, and are there mitigation measures that will be used in light of them, ref. page 15?
13. In the future, please provide "Alternatives" as the first Item in Section III.

0765

EXHIBIT K

6 4

skid trails in WLPZ is explained and justified in section III (ref.p19), as per §916.3(c)(1).

0766

10. WLPZ restrictions under Item 32 will also be specified under Item 26 WLPZ protections for LTO clarity. A revised page 10 will be provided at the PHI.

11. The dwelling located northwest of the property is inhabited, but specific discussion about early start up times were not discussed.

12. Discussion of operations and mitigations in this area is in Item 18.A. map point R-3. This area is considered stable although slide material passed through it. All slides are flagged in the field.

13. Future discussions of " Alternatives " will be located as the first item in Section III.

Sincerely,

Peter A Twight, RPF 2555

RECEIVED
MAY 11 2011

RECEIVED
MAY 11 2011

THIS SPACE FOR COUNTY CLERKS FILING STAMP

0767

Proof of Publication

(2015.5 C.C.P.)

NOTICE OF INTENT TO HARVEST TIMBER

STATE OF CALIFORNIA
COUNTY OF SANTA CRUZ

NOTICE OF INTENT TO HARVEST TIMBER DOMESTIC WATER INQUIRY

Timber Harvesting Plan (THP) will soon be submitted to California Department of Forestry & Fire Protection (CDF) for review. The CDF will be reviewing the proposed timber operation for compliance with various laws and rules. This review requires the addressing of any concerns you may have with what is being proposed. This Notice of Intent map is being provided prior to submission of the THP so that the submitter may be advised of surface domestic water supplies taken from watercourses within the THP 100 feet downslope of the proposed harvest area. Please provide such information to the forester identified below within 10 days of this publication.

TIMELINE

The plan will be submitted to the CDF no sooner than April 1997.
The end of public comment & earliest possible date the CDF may approve the plan is 15 May 1997.

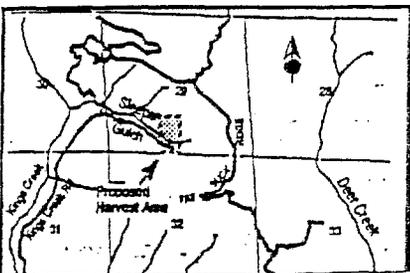
OBTAINING INFORMATION/PROVIDING INPUT

Questions about the proposed timber operation or laws governing timber operations should be directed to:
California Department of Forestry & Fire Protection
Santa Cruz/San Mateo Ranger Unit
6059 Highway 9, (P.O. Drawer F-2)
Felton, California 95018
(408) 335-6740
or
Region I Headquarters
135 Ridgeway Avenue, (P.O. Box 670)
Santa Rosa, California 95402
(707) 576-2275

am
m
306

The THP is available after submission for public review at the above CDF offices or may be purchased at a fee determined by the CDF.

PLAN INFORMATION



come out looking better
your humility, not your pr
GEMINI (May 21-Jun
today not to sign or ac
arrangements without
counsel. What you put in
will be accentuated.
It looks like you'll be
mistaken.

BRITNEY
March 19, 1997

I, the undersigned say,
That I am over the age of eighteen and not interested in the above entitled matter; that I am now, and, at all times embraced in the publication herein mentioned, was, the principal clerk of the printer of the Santa Cruz County Sentinel, a daily newspaper printed, published and circulated in the said county and adjudged a newspaper of general circulation by the Superior Court of the County of Santa Cruz, State of California, under proceeding No. 25,794; that the advertisement, of which the annexed is a true printed copy, was published in the above named newspaper on the following dates, to-wit:

March 19, 1997

I Certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Santa Cruz, California March 19, 1997

Signature KATHY WOOD IN KOLCZYK

EXHIBIT K
6 4

TIMBER HARVESTING PLAN NUMBER 1-97-254 SCR

0768

NOTE

The Notice of Intent was removed from the plan as it was incorrectly included as part of the plan by the RPF.

PAGES 63 - 64

OCT 20 1998

TIMBER ~~OPERATIONS~~ WORK . . . COMPLETION AND/OR STOCKING R E P O R T ATTACHMENT
(As per Div. 4, Chap. 8, Section 4585 and 4587 PRC, and Sections 1070-1075 Title 14, CAC)

6

CERTIFICATION BY TIMBER OWNER OR AGENT

0769

I certify that the declarations herein are true and correct to the best of my knowledge and belief. I am notifying the Department of Forestry of the status of compliance with the completion and stocking requirements of the Forest Practice Act and forest practice rules for Timber Harvesting Plan I Emergency Notice : 1-97-254 SCR

Check the appropriate boxes: *Sleeper Gulch*

COMPLETION REPORT

- Final completion report. All work on the plan was completed on (date): October 15 1998
- Annual completion report. 00 (date) _____ all work on a part of the plan as shown on attached map was completed. Additional harvesting is anticipated on th remaining area of the plan.

STOCKING REPORT - The area declared as, complete in this report or previously approved completion report meets all the stocking requirements of the Forest Practice Act and rules. The stocking status after completion of timber operations was determined by:

- One of the sampling procedures adopted by the Board of Forestry.
- Physical examination of the area by the timber owner or his agent after completion of timber operations and a waiver of sampling is requested.

This is a stocking report for the: entire operating area, part of the operating area.

A map indicating the area completed and/or stocked must be submitted with this report. Additional information can be found on the back of this form.

David Van Lennep _____ David R. Van Lennep _____
Signature Date Printed Name

1395 41st Ave suite D _____ Capitola, Ca 95010 _____
Address City, State, Zip Code

(408) 464-8788 _____ 2591 _____
Telephone Number (Area Code) Registered Professional Forester Lic. No., if appropriate

DIRECTOR'S CERTIFICATION

- The Director has determined that all of the requirements of the Forest Practice Act and the forest practice rules have been completed except stocking for the area described in this report.
- The area described by this report has been found to meet all of the requirements of the Forest Practice Act and forest practice rules including stocking.
- The area described by this report has been found NOT to meet all of the requirements of the Forest Practice Act and forest practice rules. See attached documents for further information.
- The Director has determined that the stocking requirements of the Forest Practice Act and forest practice rules HAVE NOT been met. See attached documents for further information.

DIRECTOR, DEPARTMENT OF FORESTRY

by Geoffrey Holmes _____ GEOFFREY HOLMES _____
Signature Print Name

Forester I _____ 2561 _____ 3/8/99 _____
Title RPF # Date

EXHIBIT K
6 4

March 22, 1999

0770

Jeff Almquist, Chair
Board of Supervisors
Santa Cruz County -
701 Ocean Street
Santa Cruz CA 95060

Dear Mr. Almquist:

Re: Re-zoning to TPZ under Government Code 51113.5

I am a Registered Professional Forester with Bachelor of Science and Master of Science degrees in Forestry and over 40 years of forestry experience. I have personally examined and am familiar with the soil, vegetation and timber characteristics of Assessor Parcels Numbered 089-011-41 and 43 owned by Roger Burch. These parcels have been part of timber harvest plans approved by the California Department of Forestry for many years including THP 1-97-254 SCR. They are redwood forest and mixed evergreen forest, and in my professional judgement have an average growth potential within the range of Site Index III. Site Index III is capable of growing approximately 180 cubic feet of wood per year over a 100 year period (Empirical Yield Tables for Young Growth Redwood by Lindquist & Palley, 1962).

These parcels meet the criteria of subdivision (f) of Section 51104 of the Government Code Code. They are "contiguous" to other Burch Timber Production lands namely APN 089-011-02.

Sincerely,



Peter A Twight RPF 2555

COUNTY OF SANTA CRUZ PLANNING COMMISSION
MINUTES

0771

DATE: April 12, 2000

PLACE: Board of Supervisors Chambers, Room 525
County Government Center, 701 Ocean Street, Santa Cruz, CA

COMMISSIONERS PRESENT: ROBERT BREMNER, DENISE HOLBERT, LEO RUTH,
DENNIS OSMER, RENEE SHEPHERD(CHAIRPERSON).

STAFF MEMBERS PRESENT: MARTIN JACOBSON, CATHLEEN CARR, CATHY GRAVES

COUNTY COUNSEL PRESENT: RAHN GARCIA

All legal requirements for items set for public hearing on the Santa Cruz County Planning Commission agenda for this meeting have been fulfilled before the hearing including publication, mailing and posting as applicable.

- A. **ROLL CALL:**
Commissioners Bremner, Holbert, Ruth, Shepherd and Skillicorn present at 9:00 a.m.
- B. **PLANNING DIRECTOR’S REPORT:** None.
- C. **COUNTY COUNSEL’S REPORT:** David Lee announced the resignation of Martin Jacobson. Mr. Jacobson reported on the Board of Supervisors did not take jurisdiction on an appeal by Richard Klein for Dinyari.
- D. **ADDITIONS AND CORRECTIONS TO THE AGENDA:** None.
- E. **ORAL COMMUNICATIONS:** None.
- F. **CONSENT ITEMS:**

ITEM F-1

TO APPROVE THE MINUTES OF THE FEBRUARY 23, 2000 PLANNING COMMISSION MEETING AS SUBMITTED BY THE PLANNING DEPARTMENT.

MOTION

0772

COMMISSIONER RUTH MOVED TO APPROVE MINUTES. SECONDED BY COMMISSIONER HOLBERT.

VOICE VOTE 5-0

MOTION CARRIED AND SO ORDERED.

H. SCHEDULED ITEMS:**ITEM H-1**

PROPOSAL TO REZONE TWO PARCELS FROM THE "SU" SPECIAL USE ZONE DISTRICT TO THE "TP" TIMBER PRODUCTION ZONE DISTRICT. REQUIRES A REZONING. PROPERTIES LOCATED ABOUT 400-FEET NORTH OF LOGAN CREEK, APPROXIMATELY 1/4 MILE FROM KINGS CREEK ROAD.

OWNER: BURCH ROGER A & MICHELE H/W CP
 APPLICANT: PETER TWIGHT
 SUPERVISORIAL DIST: 5
 PROJECT PLANNER: CATHLEEN CARR, 454-3225

CATHLEEN CARR (PROJECT PLANNER): Gave staff presentation, including a discussion of the property topography, nearby streams, surrounding zone districts, consistency with timber production standards, mapped resources, previous harvests of the properties, gave recommendation for action, and showed slides of the property. Noted comments received from the public.

OPEN PUBLIC HEARING

RON RAINEY (ATTORNEY FOR OWNERS): Noted letter submitted this morning. Questioned recordation of conditions of approval; should be reworded and revised to not cite specific code sections. Locational criteria should also not be specified by the conditions.

CLOSED PUBLIC HEARING

COMMISSIONER RUTH: What's is staffs reaction to Mr. Rainey's comments?

MARTIN JACOBSON: Board's Direction is to record conditions.

COMMISSIONER SHEPHERD: Proposal seems reasonable; documents won't be lost.

0773

MOTION

COMMISSIONER OSMER MOVED STAFF RECOMMENDATION; SECONDED BY COMMISSIONER RUTH

MOTION CARRIED AND SO ORDERED. PASSED 5-0

ITEM H-2

PROPOSAL TO REZONE PROPERTY FROM THE "SU" SPECIAL USE ZONE DISTRICT TO THE "TP" TIMBER PRODUCTION ZONE DISTRICT. REQUIRES A REZONING. PROPERTY LOCATED ON THE EAST SIDE OF BEAR CREEK ROAD, APPROXIMATELY 1/3 MILE SOUTHWEST OF THE INTERSECTION OF HOPKINS GULCH, AND BEAR CREEK ROADS.

OWNER: BURCH ROGER A

APPLICANT: PETER TWIGHT

SUPERVISORIAL DIST: 5

PROJECT PLANNER: CATHLEEN CARR, 454-3225

CATHLEEN CARR (PROJECT PLANNER): Gave staff presentation including property characteristics, landslides on the property, streams, surrounding zoning of properties, history of timber harvests, General Plan designations, mapped resources, gave recommendation for action, and showed slides of the property.

COMMISSIONER HOLBERT: Asked about slopes of property.

CATHLEEN CARR: Majority of property is over 45% and some over 50%.

COMMISSIONER HOLBERT: Asked how close the neighbors are.

CATHLEEN CARR: Adjacent to project. All neighbors were notified of the proposal in accordance with County Code.

COMMISSIONER HOLBERT: Concerned with the age of the Timber Harvest Plan. Asked if we can require merger of the parcels.

RAHN GARCIA: Our office has recommended against merger.

OPEN PUBLIC HEARING

RON RAINEY (ATTORNEY FOR OWNERS): Repeated comments from previous item:

PETER TWIGHT (FORESTER): Remote site of the rezoning; access goes through several properties. Owner intends to keep the land.